

0.5
15
67
Medical (dup)

JUL 10 1953

THE JOURNAL OF
MEDICAL
EDUCATION

APRIL 1953 • Vol. 28, No. 4

Table of Contents on Page 2



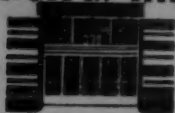
OFFICIAL PUBLICATION OF THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES

New (9th) Edition

Ranson-Clark's NEUROANATOMY

See SAUNDERS ADVERTISEMENT—Just inside

McGraw-Hill Medical Books



*A thorough discussion of
isotopic tracer techniques*

ISOTOPIC TRACERS IN BIOCHEMISTRY AND PHYSIOLOGY

By JACOB SACKS, Ph.D., M.D., Associate Professor of Chemistry, University of Arkansas, Fayetteville. 383 pages, 6 x 9, \$8.50.

This excellent textbook is written for students and physicians who wish to become familiar with the isotopic tracer techniques and their scope in biochemistry and physiology.

Since the use of isotopic tracers is a specialized technique, the material is presented from a practical standpoint by subject matter rather than by isotope. The treatment has been in terms of the broad outlines of the methods used and the results obtained rather than of the details of the experimental procedure.

The principles involved in the use of isotopic tracers and the major accomplishments that have resulted from their application are extensively discussed, and the text also includes a brief account of the elements of nuclear physics and radioactivity and of the principles of measurement of both the heavy stable and radioactive isotope, as well as data on the use of tracer isotopes in the study of photosynthesis. References to studies on plant material and micro-organisms have been made where these serve to emphasize or to clarify.

Send for your copy on approval

McGraw Hill Book Company, Inc.
HEALTH EDUCATION DEPARTMENT

330 West 42nd Street

New York 36, N. Y.

HILL MEDICAL BOOKS

New
Ana

"In the
the dyn
So writ
out, th
Structu
clude e
remain

By STE
tute, No
of Anato
in color.

New
Tex

For th
He has
ample,
and th
surger

By FRA
ulting

New
Clin

Broug
detail
findin

By JAN
ARTHU
versity
School

Wes

three
new editions
from **SAUNDERS**

**New (9th) Edition — Ranson-Clark's
Anatomy of the Nervous System**

"In the pages which follow, the anatomy of the nervous system has been presented from the dynamic rather than the static point of view. . ."

So writes the author in the preface to the *New (9th) Edition* of this classic text. Throughout, the nervous system is presented in *its relation to the rest of the living organism*. Structural details are integrated with functional significance. Completely revised to include every recent advance in the field—amplified by over 400 illustrations—this book remains the most generally useful text of neuroanatomy in the English language.

By STEPHEN WALTER RANSON, M.D., Ph.D., Late Professor of Neurology and Director of Neurological Institute, Northwestern University Medical School, Chicago. Revised by SAM LILLARD CLARK, M.D., Ph.D., Professor of Anatomy, The Vanderbilt University School of Medicine, Nashville. 581 pages, 6" x 10", 434 illustrations, 18 in color. \$8.50.

New (9th) Edition.

**New (5th) Edition — Adler-Gifford's
Textbook of Ophthalmology**

For this *New (5th) Edition*, Dr. Adler has stressed everyday aspects of ophthalmology. He has kept in mind the particular needs of the undergraduate medical student. For example, there is increased emphasis on such topics as arteriosclerosis and hypertension and their manifestations in the eyes. An excellent section on general indications for surgery has replaced the material on surgical technic.

By FRANCIS HENRY ADLER, M.D., Professor of Ophthalmology, University of Pennsylvania Medical School; Consulting Surgeon, Wills Eye Hospital, Philadelphia. 488 pages, 6" x 9", 281 illustrations, 26 in color. \$7.50.

New (5th) Edition.

**New (12th) Edition—Todd, Sanford and Wells'
Clinical Diagnosis by Laboratory Methods**

Brought completely up-to-date, the *New (12th) Edition* of this authoritative text gives detailed step-by-step technic for all standard tests, plus clinical interpretation of the findings. It details *what to do and when and how to do it*.

By JAMES TODD, Ph.D., M.D., Late Professor of Clinical Pathology, University of Colorado School of Medicine; ARTHUR HAWLEY SANFORD, A.M., M.D., Emeritus Professor of Clinical Pathology, The Mayo Foundation, University of Minnesota; and BENJAMIN B. WELLS, M.D., Ph.D., Professor of Medicine, Department of Medicine, School of Medicine, University of Arkansas. 998 pages, 6" x 9", 403 illustrations, 25 in color.

New (12th) Edition — Just Ready!

W. B. SAUNDERS COMPANY

West Washington Square

Philadelphia 5

Table of Contents

Vol. 28

April 1953

No. 4

ARTICLES

- Symposium: The Part-Time Faculty Member in Medical Education and Research—
Special Editor—Robert A. Moore..... 9

Introduction—Robert A. Moore, 9; Preclinical Teaching—James F. Rinehart, 10; More Effective Utilization—Samuel P. Harbison, 13; Graduate Medical Education—Henry L. Backus, 16; Clinical Investigation—Robert Elman, 19.

- Didactic Instruction in Medicine
—Carl F. Baumeister, Duane D. Darling..... 24

- The Teaching of Pharmacology
—Joseph R. DiPalma..... 28

- Laboratory Teaching of Toxicology
—Walter M. Booker..... 35

EDITORIALS AND COMMENTS

- Part-Time Teachers 37

- Educational TV Channel Reservations
and Medical Schools 38

- The World Conference on Medical Education..... 39

- NEWS DIGEST..... 40

- College Briefs 49

- BOOK REVIEWS 54

- Books and Pamphlets Received..... 60

- ABSTRACTS AND EXCERPTS..... 61

- AUDIOVISUAL NEWS..... 63

- Summaries of Film Reviews..... 65

- THE PERSONNEL EXCHANGE..... 69

- Association Officers, Staff, Committees..... 4

- Index to Advertisers..... 72

The Journal of MEDICAL EDUCATION



Official publication of the Association of American Medical Colleges, 185 N. Wabash Ave., Chicago 1.

The Journal of MEDICAL EDUCATION is owned and published monthly by the Association of American Medical Colleges, 185 N. Wabash Ave., Chicago 1; Phone, STate 2-8870. Entered as second class matter January 17, 1930, at the Post Office, Chicago, Ill., under the Act of March 3, 1879.

EDITORIAL BOARD: Lowell T. Coggeshall, Chicago; William S. Bean, Iowa; James Faulkner, Boston; Chauncey D. Leake, Texas; Robert A. Moore, Washington (St. Louis). **STAFF:** Editor, Dean F. Smiley; Managing Editor, William Swenberg; Assistant Managing Editor, Tess Snyder; News Editor, Jeanette Ninas.

EDITORIAL POLICY: Neither the editors nor the Association assumes responsibility for statements made by individual writers. With the author's permission the right is reserved to reduce or revise any material submitted for publication.

SUBSCRIPTION RATES: \$7 per year; \$1 per single copy; foreign \$8 per year; \$1.25 per single copy.

COPY DEADLINE: Copy for typesetting must be in by the 1st and plates by the 10th of the month preceding publication.

NATIONAL ADVERTISING REPRESENTATIVE: Gordon M. Marshall, 30 W. Washington St., Chicago 2, Ill.; phone, DEarborn 2-5148.

COPYRIGHT: April 1953, by the Association of American Medical Colleges.

Printed in U.S.A.

The Part-Time Faculty Member in Medical Education and Research

Introduction

ROBERT A. MOORE

IN A DISCUSSION of plans for making the Journal of MEDICAL EDUCATION more useful to all who are engaged in medical education, the Editorial Board believed that a series of symposia on timely topics would be appropriate. The first of these is on "The Role of the Part-Time Staff Member in Medical Education and Research."

In most medical schools a large part of the clinical instruction is provided by the part-time staff. If medical education is to continue to progress, more effective means must be found for utilization of the part-time faculty member.

The contributors to this symposium have been selected to represent varied viewpoints. One is a professor of a preclinical subject (Dr. Rinehart), one is a professor of a clinical subject in a school in which most clinical instruction is by part-time faculty (Dr. Harbison), one is a professor in a graduate school of medicine (Dr. Bockus), and one is a part-time professor in a school with a large full-time faculty (Dr. Elman).

A reading of each paper—brief and to the point—will reveal the

different approaches. Dr. Rinehart emphasizes the value of motivation to the student in the preclinical studies and the contribution which the clinician might make by pointing out the applications of the scientific facts. Dr. Harbison gives attention to the "art of medicine" and holds that the man in active practice can best convey this to the student. Dr. Bockus is impressed with the importance of clinicopathologic correlation and recommends clinical seminars and conferences between full-time basic science instructors and part-time clinical instructors. Dr. Elman points to the use of free time by clinicians for research and asks that medical schools give equal opportunities and rewards to the full-time and part-time staff. Both Dr. Bockus and Dr. Elman are concerned about the recruitment of young men for teaching and research on both a full-time and part-time basis. It is pertinent that all conclude that the full-time faculty is a necessity in modern medical education.

It is clear from these papers that the part-time faculty member has a real place in medical education and research, and that his contribution can be improved.

Each author has written his paper

Dr. Moore, a member of the Journal Editorial Board, is dean of the Washington University School of Medicine, St. Louis. He served as special editor for this symposium.

independently and the editor has used the red pencil sparsely. Hence it is only fair to add that the views

expressed are those of each author and do not necessarily represent those of other authors or the editor.

Preclinical Teaching

JAMES F. RINEHART

THE FIELD OF medical education is in a state of considerable ferment. Dissatisfaction with the current teaching programs has resulted from the realization that the pattern of medical education has not changed significantly during the past generation, and knowledge that the present curriculum is overloaded, since the addition of new studies has not been balanced by the omission of others. Because the problem of providing adequate medical education is complicated by realistic economic strictures, the question is not only "how can the teaching of medicine be improved?" but "how can it be improved without increasing costs unduly?"

With these thoughts in mind, I shall undertake a consideration of the desirability of enrolling the physicians who are engaged primarily in clinical practice as auxiliary teachers of the preclinical medical sciences. I approach this subject as a theorem rather than from the analytic standpoint.

There is little doubt that the change from the so-called proprietary medical school to that with a full-time staff has contributed much to medical education and research. A nucleus of full-time staff members

in the preclinical departments of a school of medicine is essential for an adequate, well organized plan of education. Such a nucleus is also of vital importance in the conduct of research in the basic medical sciences. Without men to carry on such endeavors, medicine would soon become sterile, and in such an atmosphere education would suffer immeasurably. Clearly, then, a solid core of full-time members is requisite for a sound preclinical department.

The importance of full-time men, however, in no way precludes the value of part-time staff members. The useful role of the part-time faculty member in clinical instruction has long been recognized. For many years part-time members of our staff in pathology have contributed substantially to undergraduate as well as graduate instruction. Pathology is not only a fundamental preclinical science, but occupies a rather unique position in medicine in that it forms a natural link between the other preclinical sciences and clinical medicine. It is particularly important that a department of pathology have a substantial staff not only to further the science of pathology in research but to meet the multiple demands for cooperation with other departments. The part-time pathologist can aid not only in the teaching of pathology (particularly in the laboratory and

Dr. Rinehart is professor of pathology and chairman of the department of pathology at the University of California School of Medicine, San Francisco.

seminars) but, as will be indicated, along with the surgeon, radiologist, internist and other specialists, can make a substantial contribution to teaching other preclinical sciences.

An ability to convey knowledge and to stimulate the thought processes of another individual is, to a large extent, an inherent quality. Those with such ability enjoy its application. Stated differently, good teachers enjoy teaching and consequently welcome opportunities to participate in medical education. All competent physicians do not have this talent, but many do. These physicians, in particular, should be affiliated with the medical schools.

Perhaps a major educational weakness in presentation of preclinical sciences is the failure to motivate the student, to indicate to him how a given segment of basic medical science has application to his future endeavor. Thus, interest in the facial nerve would certainly be enhanced if its potential injury in mastoiditis and the difficulties encountered in excision of parotid tumors were indicated.

Little imagination is needed to find many similar examples. Retention of knowledge, of course, is dependent to a large extent on associations. It is evident that the experienced surgeon is not only able to stimulate the student's interest in anatomy but, in addition, can skillfully establish associative facets which will help him to retain this information. It seems to the writer that the pathologist also might make a substantial contribution to teaching in the field of anatomy. Classical anatomic teaching has placed major emphasis on skeletal and neuromuscular structure to the relative neglect of important visceral structure and relationships. Some knowledge of the

occurrence, clinical manifestations and character of coronary disease would certainly enliven the student's interest in the coronary circulation and conduction system. The pathologist could not only supply tissue for study, but many association pegs for retention of learning.

The stimulus of a clinical influence in the teaching of bacteriology is being increasingly appreciated. Some schools have full-time faculty members serving jointly in departments of bacteriology and medicine. Others, no doubt, would profit by acquiring the part-time association of the internist or pathologist with a special interest and knowledge of the practical problems of infections in man.

In physiology, the radiologist could make a major contribution to the study and understanding of important physiologic principles in the field of respiration, deglutition and gastroenteric function. In many respects stereoscopic x-ray films give a clearer idea of bone structure and relations than that gained by dissection. In certain aspects of anatomy and physiology, the fluoroscope and x-ray films can reveal more of the fundamental aspects of gross structure and function than any number of words. This method of instruction is widely applied, of course, but as a rule only by the anatomist or physiologist. It would seem that the radiologist, by participating in these branches of teaching, could arouse the student's interest by drawing attention to various important clinical applications of the particular facet of anatomy or physiology under study. Further, the student would gain an early insight into the highly useful diagnostic method that he will apply in his practice.

Of course, the ideal in teaching a basic medical science is to fix in the

mind of the student the major facts and principles germane to the field. However, I think one may justly ask, "Is it possible to remember the facts and principles of a field such as biochemistry without association reference points?" It is my belief that this is quite impossible. An appreciation of the importance of electrolyte metabolism and the factors which influence it can certainly be better fixed in the mind of the student if there is some concurrent consideration of the gross deviations of adrenal structure and function encountered in Addison's disease or the Cushing syndrome in man. Brief case records and clinical or pathologic demonstrations would not be out of place in a course in biochemistry. Detail of pathologic changes need not, and in fact, should not be given at this stage. Rather the emphasis should be placed on basic hormonal and biochemical influences. Later, in the pathology courses, stress should be placed upon pathogenesis and detail of pathologic changes accompanied by a review of the biochemical features, and finally in the clinical years the condition in its entirety should be reviewed again, with the patient as the focal point. Such repetition is not wasteful, but constitutes sound educational method. The student would be more eager to learn and remember the basic factors controlling potassium metabolism if he appreciated that paralysis, myocardial degeneration and death may occur in man as a result of severe potassium depletion.

In many respects the competent pathologist has a broader view of medicine than any other specialist.

Frequently, he has conferred with his associates on the clinical aspect of a case, he has advised on the selection and interpretation of laboratory studies, and he may have examined the surgical specimen or diagnostic biopsy. In some instances he has done a thorough postmortem examination and has correlated the clinical, laboratory and pathologic findings. Thus, it would appear that the pathologist is uniquely qualified to aid in the teaching of some of the aspects of physiology and biochemistry.

In certain instances the pathologist or internist might be responsible for full presentation of a subject in physiology or biochemistry. More often he might supplement a lecture with a short demonstration, assist in the laboratory or act as preceptor in small seminars. Such informal conferences with students would give additional meaning to the basic study and, perhaps more important, provide the multiple points of association for retention of the knowledge that the young physician will need in his future practice.

Truly competent physicians base their diagnosis and management of disease on a knowledge of the fundamentals of structure, function and chemistry. The medical student should not be denied the stimulus of early association with able clinicians of this type. Contact with these men would serve not only as an inspiration to the student, but would make it evident to him that preclinical sciences are vital to full understanding of the everyday problems of medicine.

More Effective Utilization

SAMUEL P. HARBISON

IT IS WELL recognized that the greater proportion of the undergraduate clinical teaching load in most schools falls upon the part-time faculty. There are only a very few at which all of the teaching is done by a full-time faculty. It would seem, therefore, that the function of the part-time faculty in clinical teaching is an essential one in our present educational organization. There can be no doubt but that it has been effective. The purpose of this paper is to discuss, then, how the part-time faculty member may be utilized even more effectively.

This century has seen the emergence of full-time men in medical teaching. For the most part the full-time clinical faculty has consisted of heads of departments with heavy administrative and teaching loads, of younger men starting out after training who desire academic careers and must have immediate financial support, and of physicians interested primarily in research. That there must be such a nucleus of full-time members for effective teaching, research and administration seems obvious. But to carry the principle further, to include the entire faculty, is another matter; and one about which there is considerable controversy. Quite apart from economic and organizational difficulties, there may be very serious omissions in the training of the young doctor, and these have to do with the "art of medicine."

Dr. Harbison is a professor of surgery at the University of Pittsburgh School of Medicine.

The great majority of students leave medical school and internship to practice medicine; they are fundamentally interested in serving suffering human beings, and medical school represents the preparation for this life. Such a career is both a necessary and a fruitful one in our society, and the practitioner is interested primarily in his patients. His emphasis is upon doing something for his patient, and his interest in teaching and research is secondary or entirely lost to sight.

As his practice grows, there is less and less opportunity for realizing what few ambitions he might once have had in these latter activities. He does well to keep up with what is new and sound. His life, whether he be specialist or general practitioner, is intimately concerned with people, with suffering, with sickness in all walks of life. He is a narrow and inadequate physician unless he becomes mature of soul, wise of mind and reverend of spirit. But the physician who achieves this development knows much of the "art" of his profession, and typifies the type of doctor that we must produce—a man with a sound scientific background, a student's attitude toward progress and a profound understanding of life in its broadest aspects. Can the complete inspiration for this type of life be given to the student by a totally full-time faculty whose activities are necessarily limited to hospital practice, to research and to scientific teaching duties? Is it not necessary to expose him to the problems of the

general practitioner, the moral and spiritual experiences he will encounter in practice beyond the hospital? Should it not be important to acquaint him with the economic side of office practice, with the contents of the doctor's bag? Should he not during medical school be introduced to intimate patient-doctor relationships that occur in practice on the outside of hospitals? And should he not know, from the sociologic and economic aspects, as well as from the scientific aspect, of community health problems in general and the family health problems in particular? These are some of the considerations of training which can be adequately supplied only by the part-time faculty. But these teachers also can participate more fully in the scientific curriculum as will be pointed out.

It seems clear that both a full-time and a part-time faculty are essential for a complete and broad medical education. The medical school must not only turn out doctors "Ἀξίος ὠφελεῖν τοὺς ἀλγοῦντας" but teachers, investigators and scientists. Research is not a thing apart, but must be an ever-present inspiration to the student as well.

Medical curriculums are being scrutinized and are undergoing revision. If we were to summarize the trends in thought, it would be to state that the aim is to present the patient as a whole, not only in reference to the ills of his body and mind but in reference to his total environment. This implies less departmentalization; more integration of the various disciplines. Organ systems become the focus rather than subjects, so that, for instance, the gastrointestinal tract would be studied in relation to anatomy, physiology, biochemistry, endocrinology and radiology simultaneously. And its

functioning in the patient in health and disease would be considered at the same time. In other words, from the first year the entire human being is presented to the student. His studies are integrated toward the whole person not only in disease but also in health. This approach constitutes the vertical as contrasted to the horizontal plan of medical education.

This type of teaching implies much fuller use of the faculty. At conferences and seminars it would be necessary to have representation from many fields, from the full-time professor of biochemistry to the clinical practitioner—including the specialists in between. The part-time faculty will leaven with "humanism" the "science" of the full-time faculty to the mutual benefit of students and participants alike. Such a curriculum is, of course, not fully realized anywhere yet, but many schools are beginning to use the concept in part. To give a few examples in Pittsburgh, the surgical diagnostic clinics for the entire class are usually conducted not by a single surgeon, but with the active cooperation of the pathologist, radiologist and internist, and others when feasible. Routes of spread of cancer are being taught while the student dissects the body during his first year. Surgical lectures on such general topics as duodenal ulcer are scheduled to be given the same week as the medical lectures on this subject. The psychiatrist is invited to participate in regular grand surgical rounds for house staff and students. The "Introduction to Surgery" lecture course in the second year is given in part by clinicians, in part by basic scientists and in part by men in fields seemingly remote from surgery. The part-time faculty is utilized not only throughout these activities but even more in the smaller groups

of students serving clinical clerkships.

In speaking of the clerkships, it is important to point out that effective teaching by the part-time group presupposes that they have adequate patients of their own in the hospital. If the staff is so large that many of the good teachers have only a few patients each, and must use other hospitals, their interest and effectiveness will be greatly reduced. And a good teaching hospital must, to a certain extent, control the distribution of the types of patients so that one specialty cannot enjoy unlimited beds at the expense of the others. These statements are easy to make but much more difficult to put into effect. If the interests of the school are kept paramount, however, all but the most self-interested will be willing to make sacrifices.

If the part-time faculty is to be effective, it must be carefully selected. Almost all doctors will signify a willingness to "teach." Often, however, this consists of a recital of their own experience exclusively. Often this "experience," in terms of actual results and follow-up, has never been analyzed and is pure assumption. The student gets a dogmatic statement of opinions, which neither stimulate his thinking nor inspire his soul. Men with very busy practices and, therefore, wide experience may for this reason be excellent clinicians but poor teachers. The good teacher will be the thoughtful type of practitioner who keeps up with the literature, attends meetings not only of his own particular interests but of others as well, knows how to say "I don't know," and can impart to the student some of the humanism of his art. Often younger men, who throughout their training period and a year or so afterward have indicated no inten-

tions towards a part-time academic career and have shown no qualifications for teaching, suddenly decide they wish to teach. The motives here are questionable since they are usually concerned with the kudos of a university faculty position and hospital staff appointment. There are few men who become effective teachers who cannot be spotted easily during their training years; the direction of their efforts is unmistakable, and the tendency may often be noted while they are still undergraduates. The student who selects his internship and place of training on the basis of salary paid, food offered and staff position dangled has made clear the direction of his career. Unfortunately, even if the practice of medicine is his aim, he could be criticized from the standpoint of compromising his preparation for the responsibility of caring for the sick.

The part-time faculty member's participation in rounds, clinics and clerkships has been indicated. His usefulness and effectiveness depends not alone upon his designated assignments but upon attendance at other functions where he adds to the broadness of the teaching program by his frequent or infrequent contributions to the discussion. Another role for the part-time man is that of advisor. Many students feel they have no one with whom to "talk things over." These "things" may range from personal troubles to questions about type of career, internships, training years, habits of study and so forth. Perhaps every student should have a faculty advisor whom he can use or not as he wishes. Needless to say, such advisors must be carefully chosen.

But there are other functions where the part-time faculty member may play an essential part in under-

graduate teaching. In Texas a plan has been developed in cooperation with the Texas Academy of General Practice which makes available to fourth-year medical students three months of preceptorial work with general practitioners in various parts of Texas. At the University of Pennsylvania a plan for assigning students from their first year on to a family to act as family health advisor has been started. In 1949 this was an optional course limited to 15 students, but it has become more popular and the school has extended the program. At the New York University College of Medicine medical-social family studies are in progress which again are geared to the broader aspects of medical education. Such plans as these help to answer some of the deficiencies in our present sys-

tem. They will require a considerable extension of the use of part-time doctors—specialists and general practitioners—and of persons in sociological fields related to medicine. It is proper and fitting that such persons be added to the part-time faculty of the sponsoring university.

Thus, while the full-time faculty forms the essential nucleus of the medical school, responsible for the direction of teaching, for research, for administration, the part-time faculty carries out much of the clinical teaching, broadens the base of medical training, supplies many of the moral and human inspirations so necessary to the development of the real physician. Plans for extending the education of the medical student beyond the school and the hospital should be encouraged.

Graduate Medical Education

HENRY L. BOCKUS

THE TERM graduate medical education implies the existence of facilities which permit training which is adequate for the beginning of practice in a special field of medicine or surgery without supervision; that is, training for specialization. Specifically it refers to graduates in medicine studying in a university, who may be candidates potentially or actually, for university graduate medical degrees. However, the term "graduate medical education" has been applied loosely to any process designed to render student physicians

sufficiently expert to be acceptable for examination by one of the American specialty boards. This includes apprenticeship or precepteeship, fellowship or residency training or combinations of these. It is questionable whether any plan of training which omits the correlation of basic science teaching with clinical methods under the aegis of university or medical school actually should be designated as graduate medical education.

The great demand for the creation of facilities for the training of future specialists, which began soon after the complete renovation of our undergraduate medical institutions be-

Dr. Bockus is chairman of the department of internal medicine and gastroenterology at the University of Pennsylvania Graduate School of Medicine.

tween 1905 and 1915, has not been met satisfactorily. Residency training unquestionably affords the best method of acquiring clinical and technical knowledge in most specialties. In 1949 there were approximately 15,000 approved residencies in the hospitals of this country. Unfortunately, many of these have proved inadequate for training purposes, although they have served to improve medical care in many hospitals. There is need for a thorough house cleaning—a re-examination of the training facilities afforded by all existing residencies. Many residency programs for internists in non-teaching hospitals contain no provision, or inadequate provision, for a most important phase of training, namely the inculcation of the fundamental basic scientific principles underlying clinical medicine. In internal medicine this weakness can be overcome only by plans which correlate basic science teaching with clinical techniques.

This latter plan is that which is emphasized in the University of Pennsylvania Graduate School of Medicine. Our faculty believe that the academic eight-month course, correlating basic science instruction with clinical training, incorporated into a good clinical hospital residency program, constitutes ideal preparation for specialization. Unfortunately, because of financial handicaps, there are few undergraduate medical schools capable of organizing graduate schools of medicine of this type. The nearest approach to such a plan would be for medical schools to establish training facilities in the basic sciences to be incorporated into the residency training programs of nearby hospitals. Columbia University has made a beginning in this direction, i.e., in the correlation of medi-

cal school basic sciences and clinical teaching with residency programs.

My remarks in this symposium are based upon experience obtained during my association with the University of Pennsylvania Graduate School of Medicine. I shall review briefly our faculty structure and curriculum in order to point out the relationship between full-time and part-time teachers. Perhaps our greatest contribution in terms of curriculum improvement in graduate medical education has been the development of integrated teaching in the basic sciences. During the academic year more than 200 lectures, panel discussions and case presentations are given by our basic science faculty, arranged on an "organ" or "system" basis. In the discussion of each organ or system, the basic science matter is presented in sequence, comprising the aspects related to physiology, physiologic chemistry, pharmacology, pathology, bacteriology-immunology and physical anthropology. This innovation in graduate medical teaching was described in a recent article in the *Journal of the American Medical Association* (147:1221, November 24, 1951). The basic science faculty, responsible for this part of our instructional schedule, is made up entirely of full-time teachers in the graduate school of medicine. Their salaries are paid from funds derived from tuition fees of the student physicians.

In the course in internal medicine, an additional hour each week is devoted to a conference between the basic science teachers and clinicians who are expert in the topic under discussion (question and answer period). The internists who participate in this conference are part-time teachers. The total work week for students in the course in internal

medicine is 46 hours. Basic science and radiology, taught by full-time teachers, comprise approximately nine hours of instruction each week, leaving 37 hours devoted to clinical instruction. The latter teaching load throughout the eight-month course is carried entirely by *part-time clinical teachers*. They receive no remuneration from the university. Traditionally, in Philadelphia, part-time medical teachers have contributed their time without pay. There is nothing to suggest a change in attitude on their part.

Those responsible for the arrangement of our instructional schedules are faced with a new problem, that of obtaining additional part-time faculty members. This has been brought about by the increased demand for specialty training and by changes in methods of training. Formerly, expertness in most specialties was achieved by a long, tedious apprenticeship. This entailed precepteeship and part-time attendance in clinic and ward for many years. These trainees received financial support from their preceptors for assistance with the care of private patients. Further support was often obtained by part-time employment in industry, insurance companies, etc. Obviously this method of training could only be made available to a small percentage of those who are now being trained for specialization by the more modern residency programs.

The transition which has occurred in training methods for those desirous of becoming specialists has necessitated comprehensive changes in faculty organization. A greater number of young, recently-trained specialists has become essential. Young well-trained men must be available for instruction of residents. In the

case of graduate schools of medicine, concentration on a correlation between basic science instruction and clinical practice has increased the need for additional young instructors. In internal medicine, the need for a greater number of instructional hours devoted to intimate contact with patients in ward and clinic is recognized as being highly important in the training of future internists. For this type of instruction, classes are divided into small groups of student physicians. These needs can be met only by adding to the faculty a number of young physicians who have recently completed their residency training and have satisfied or are about to satisfy the requirements of the American Board of Internal Medicine. We are encountering considerable difficulty in obtaining a sufficient number of young physicians to fulfill these needs, although potentially a greater number are becoming available each year. Following graduation an average time of four years has been devoted to training by most of these young people. Those who are looking forward to a career of part-time teaching and practice should be given teaching assignments on completion of their residency training. Usually private practice does not supply adequate funds for their economic support during the first year or two of practice. If these recent trainees are to be attracted to a teaching career, funds must be found to remunerate them for time devoted to part-time teaching. Unfortunately, departmental budgets of many medical schools and of our graduate school of medicine are insufficient to permit some compensation for these promising youngsters. At present our budget is hardly sufficient to compensate the full-time basic science faculty. En-

dowments, part-time employment in research by pharmaceutical firms, research grants, etc. often are inadequate to support the number of young specialists required to maintain efficient up-to-date departments of medicine in many schools. Medical schools find themselves at great disadvantage competing with the medical departments of the Veterans Administration, Armed Services and industry for the services of these young physicians.

Summary

I believe the answer to the question, "How may part-time faculty members be more effectively utilized in graduate teaching?" has already been answered. To reiterate briefly, the place of the part-time teacher who has been in practice for 10 years or more is well established. This faculty member rarely requires financial support. He will continue to carry the principal load of clinical teaching in conferences and didactic assign-

ments. The changing character of instructional methods has increased the need for young physicians, who should be fitted into the instructional faculty immediately on completion of specialty training. Their principal duties during these formative years will include (1) participation in the training of residents; (2) participation in clinical research projects; (3) acting as a liaison between basic science instruction and clinical techniques, and (4) being responsible for most of the intimate bedside and outpatient instruction to small groups of student physicians.

A more difficult question which I should like to pose is, "How can we obtain financial support for the increased number of recently trained physicians so necessary to fulfill present part-time teaching requirements?" For me this constitutes at present an almost insurmountable problem. I believe it to be a problem in urgent need of solution and one to which medical educators may justifiably devote considerable thought.

Clinical Investigation

ROBERT ELMAN

DESPITE DIFFERENCES in opinion as to definition, "part-time" has a real meaning in most medical schools, especially when contrasted with "full-time." Indeed, in many institutions the two groups—part-time and full-time—are rather sharply divided. The full-time group, even when relatively small in number, is

often called the "core" of the medical school staff, whereas the part-time group, even when larger in number, is usually considered as auxiliary staff.

In the present discussion, part-time will be applied to one who spends part of his time in research and teaching, but who receives most or all of his income from his own private practice.

Dr. Elman is professor of clinical surgery at Washington University, St. Louis, and is on the staff at Barnes Hospital.

Time Spent by Part-Time Men on Investigation

The actual time spent by part-time members of medical school staffs in undergraduate and graduate teaching is often considerable. In Washington University, for example, part-time men in the department of surgery above the rank of assistant (or fellow) in 1949 to 1950 comprised 80 per cent of the faculty in that department and contributed a large part of the actual time spent in the teaching of upper-classmen and hospital house staffs.

Investigative activities are more difficult to measure. An attempt to do so is presented in Table I, based on the yearly list of publications by members of the staff of Washington University. Each title of a book or paper in a scientific journal was classified as indicated. The number of authors is also shown. The total number of staff members in each group is also given for the year 1949-50. While such a listing is far from accurate, it points out roughly the distribution of published contributions among the full-time preclinical and clinical staff, the part-time staff, and those resulting from joint efforts of one or

more groups. It is clear that the activities of the part-time men are considerable, forming a significant proportion of the total research of the medical school faculty.

More Effective Investigation by Part-Time Staff

In general, the means for encouraging more effective investigation applies to all staff members, regardless of whether they are part- or full-time. More productive investigation requires both materials and individuals. Since the individual doing the work is the topic under discussion, attention will be limited to the recruiting and development of first rate investigators, although obviously provision of funds for materials is also essential. However, it may be accepted as axiomatic that other things being equal, a stimulating yet warm and open atmosphere of research will so tend to attract potential investigators that the question of full- or part-time is apt to become secondary.

In further consideration of the subject of the part-time staff, it might be important to discuss certain general characteristics of this group, at least as far as research is concerned. It

TABLE I
DISTRIBUTION OF ANNUAL BIBLIOGRAPHIC TITLES
(The numbers in parentheses refer to the number of major authors)

Academic Year	Preclinical Full-Time	Clinical Full-Time	Clinical Part-Time	Joint
1946-47	60	59	108	5
1947-48	50 (21)	104 (47)	110 (57)	9
1948-49	45 (20)	138 (50)	108 (48)	20
1949-50*	90 (34)	161 (81)	117 (53)	20
1950-51	78 (30)	140 (93)	124 (58)	16

*During this period the total numbers of preclinical full-time, clinical full-time and clinical part-time staff members above the rank of assistant or fellow were 51, 128 and 250 respectively. Thus, papers were published by 67 per cent of the preclinical full-time staff, 62 per cent of the clinical full-time staff, and 21 per cent of the clinical part-time staff.

should be emphasized at the outset that there is a basic economy in the cost to the medical school when part-time men are used. To a considerable extent this is true because the personal economic needs of the investigator are met by the very circumstance of his being part-time. This is particularly true of men doing surgery, which by tradition commands much higher fees per hour of time spent than other specialties. For example, a surgeon doing an average of but two or three major operations a week on private patients of comfortable means would receive between \$20,000 and \$30,000 a year in fees in most communities. It should be recalled, of course, that he often spends much time in nonoperative clinical activities which are less remunerative, and also has to bear considerable overhead costs. Nevertheless, the surgeon often is able to earn sufficient income after the expenditure of a relatively small part of his working week, a factor which frequently makes available a considerable amount of time for other activities. Because of this, surgeons perhaps more than other physicians should assume a greater responsibility in advancing the aims of medical research.

A second economic advantage may accrue to the university because of the activities of part-time men. If they have developed a reputation for good clinical research, they are able to bring funds to the school as grants from private or governmental agencies devoted to the promotion of research. Moreover, because of their contacts with patients and others of wealth, they may be in a position to encourage contributions from these individuals for the support of research in the institution.

A third general characteristic of

the part-time investigator, which he shares with the full-time man but tends to enjoy to a lesser degree, is the need for good personal relations with all of his associates and superiors. The "esprit de corps" in any organization is obviously important whether the members are full-time or part-time. However, the part-time man perhaps is more likely to suffer from neglect because he is often considered outside of the central core of full-time staff upon whom the medical school depends. Thus he is apt to have no feeling of contact with those in charge. He feels detached, apart, perhaps even sometimes unwanted because he lacks that feeling of actually "belonging."

Suggestions

Specific means by which the part-time man can be used more effectively for successful research are the following:

1. **PARTICIPATION:** There can be no doubt that a sense of participation in the management of one's activities is an important human need. In the days before the industrial revolution this element in the well-being of the worker was satisfied because he was a member of a small group and knew his associates and his superiors fairly well. As industry grew rapidly to its present gigantic stature, the worker soon lost sight of his superior and never saw the boss. If industrial democracy has meant anything to the increased productivity of American factories, it has done so not only as a result of material gains, but because of methods developed to give the worker a sense of sharing in the management of his affairs.

Educational democracy in some instances has lagged far behind in providing this representation by the

various workers at all levels in large institutions. Yet it must be apparent that this vital human need, if adequately met, will increase and promote the efficiency of the individual in his daily effort. In this sense, the effectiveness of the part-time man in investigation can be greatly increased, insofar as there is a tendency to deny him the participation often accorded his full-time counterpart. Thus, a greater extension of educational democracy should tend to promote performance by increasing the confidence and self-respect of each worker in his relationship with his superiors.

2. REWARDS: Inasmuch as part-time men in general receive and require relatively little financial return for their investigative efforts, rewards should take other forms sometimes called intangible. One of these is regular advancement in academic rank, which should be based upon accomplishment and accomplishment alone. Another deals with tenure. Tenure may mean very little or very much, depending on many circumstances, but whatever the policy is in an institution, the same criteria should be applied to both the part-time and full-time men. A third method of reward is giving adequate recognition by the institution to work done by part-time men. A fourth method is equal treatment with full-time men in providing hospital facilities for the care of private patients.

3. FACILITIES: Facilities for investigation including space, equipment and personnel (especially technical help) are notoriously limited in most medical schools. Such facilities as exist should be available to all successful investigators rather than being restricted to those who spend full-time.

4. JOINT INVESTIGATION: Joint in-

vestigation between members of different departments and of the part- and full-time groups should be encouraged, particularly on clinical problems. Close cooperation can do much to advance more effective research, which becomes more involved and complicated each year. In general, the part-time men tend to have a more practical clinical approach, whereas the full-time men are more apt to contribute importantly from the physiologic and laboratory point of view. Close teamwork by members of the full-time preclinical and clinical staffs with the part-time clinical staff can yield worthwhile findings which will not only enrich practical therapeutics, but may also add much to basic physiologic knowledge.

5. RECRUITING YOUNGER MEN: Most medical educators agree that investigation cannot be effectively promoted unless young men of ability and sincerity are continually attracted into the field, even though there are insufficient means to assure them an income large enough to compete with the monetary rewards usually available in private practice. Most young men realize, of course, that the really high incomes from private practice are not common and that it takes many years and much effort to reach such a goal. Nevertheless, it is not by emphasizing the material rewards that good men should be reached. It is for this reason that the intangible rewards of part-time activity should have a real appeal.

Many other attractions beckon the promising young investigator—the intellectual stimulation from contact with fellow scientists, the excitement which comes from exploring unknown fields, the thrill of discovery, the recognition of achievement by fellow practitioners, the approval by colleagues of successful effort. These

rewards are not reserved to any individual, regardless of the source of his income, but are the real dividends available to all, which more than make up for any differential in financial income.

When the part-time man spends considerable effort and energy doing successful research, it is largely because he feels the incentive of these intangible rewards. Moreover, he enjoys them in addition to the pleasure which comes from therapeutic successes in his clinical practice. This kind of example should be utilized more in recruiting young men. Such a combination of motives unadulterated by material considerations should appeal to those who are ready and willing to devote themselves to non-income-producing work, provided only that they learn of the priceless returns which take other forms.

Summary

Evidence has been presented to show that part-time men contribute significantly to medical research. This activity imposes little or no burden on the budget of the institution in terms of salary. Moreover, such men are often responsible for significant sums for research from various outside sources. Thus from the point of

view of the university's economic self-interest alone, such individuals should be utilized more fully in investigative work.

Since the incentives for investigative work by part-time men are nearly always unadulterated by material gain, but rather motivated almost entirely by the so-called intangible rewards, their example should be stressed in recruiting younger men for investigative activity.

The utilization of part-time men can be increased by removing artificial barriers now existing between them and the full-time group. In terms of promoting medical research, a rigid division between part-time and full-time has little justification as long as both groups successfully contribute their time, talent and effort. Recognition, encouragement and support should not be restricted to one or the other groups, but should be extended to all who earn these rewards.

In no other field is the character of the individual more important than in research. If he is intelligent, able, honest, sincere, unselfish, industrious, curious, ingenious, he will tend to be a good investigator. And if he is, he should be encouraged and protected in this work—regardless of whether he is full- or part-time.

Didactic Instruction in Medicine

A presentation of a method used in teaching medicine
to junior students.

CARL F. BAUMEISTER and DUANE D. DARLING

WE BELIEVE the primary objectives of any teaching program in a medical school are the acquisition of proper factual knowledge based on an understanding of the dynamics of the disturbed body physiology, and the ability to apply this knowledge to individual patients. While intellectual honesty, industry and a pleasing personality are desirable qualities for a successful physician, we feel that a medical school can do no more than encourage their growth in students who already possess these qualities.

A general resume of our methods of instruction in medicine was published in the *Journal* in 1947. This paper will provide details of the essential medical information we referred to as "Mimeographed Supplementary Material."

In the teaching of medicine, two types of learning experiences should be provided. Small groups of students should have close clinical contact

with individual patients. This will help the students learn how to apply their factual knowledge and will center their interest on the patient and his individual reaction to the dynamic process of disease. Larger groups should receive controlled instruction on how to acquire factual knowledge. We propose to consider the teaching of this essential medical information.

Basic Principles

We believe it impossible for a student to assimilate approximately 400 pages of a textbook of medicine each quarter. Even the moderately successful attainment of such a feat would leave the individual with little conception of the relative value of what he had learned. Further than this, since it would be purely a memory attainment, the subject matter would slip rapidly away and most of the effort involved would be lost.

Real assimilation of material learned involves much more than memory of facts. To be lasting and usable, knowledge must be correlated and the stu-

Dr. Baumeister and Dr. Darling are members of the department of internal medicine, University of Illinois College of Medicine.

dent must have a conception of its relative value.

It would be ideal if the junior student who has been given the essential groundwork in physiology and pathology could automatically correlate and remember the clinical facts of disease without the necessity for formal didactic work. The need is for integration of pathological physiology with clinical manifestations, with the proper balance of instruction in underlying basic facts and acquaintance with the clinical situation, which is always some perversion of normal function.

A specific understanding of the dynamics of the disturbed body physiology, as applied to the particular group of diseases under consideration, is what is really needed. The vast increase in medical knowledge makes this approach not only proper but mandatory.

Material Divided

We have divided the material to be presented to the students into units such as fever, heart, kidney, etc. Only major points are taken up, the most important signs and symptoms, and the students are given an outline sheet to master.

The aim here, with this form of introduction, is to initiate a comprehensive approach to the diseases, from which the student can go on, as he studies individual patients, to a flexible working body of knowledge—each diagnosis an individualized research problem, each treatment tailored to fit the particular patient.

In presentation of each unit, the outline form has proved the most useful in conveying the material with the proper relative emphasis and correlation. We have found that when we included too much, the objective

of the course was lost. For example, less common or less important diseases are brought in indirectly through mention of differential diagnoses. Our objective is that the student learn to utilize facts with facility rather than merely to memorize and collect facts.

No section is intended as a substitute for the textbook. Rather, as he studies the material of each unit, the student should learn to use his textbook much as the practicing physician does. The text should be a welcome reference source, not a mere collection of facts to which the student must turn, often with no pleasant anticipation, and somehow master in order to stay in school.

It is perhaps unfortunate that the student usually is started in medicine on the subject of the fevers. Diseases which produce fevers have a greater assortment of symptoms and signs, as a universal characteristic, than are customarily found in any other group of diseases.

By our comprehensive system of approach, however, we have ample proof that this section has been rendered simple and easy to grasp by the average student. This is the same principle that is used throughout the course; that is, learning: (1) those symptoms and signs which are more or less common to all the diseases in a given category or system, (2) having the students refer to their course in physiology of symptoms for a dynamic understanding of how a deranged body physiology produces these particular symptoms and signs, (3) taking up the distinguishing traits of the particular disease under consideration as related to the general pattern of the group. Both didactically and clinically this system has been found to have overwhelming advantages.

**Example of Material Given to the Students
Master Sheet for the Fevers**

Diagnostic characteristics more or less common to all fevers:

A. SYMPTOMS

1. Fever:

- a. This is of varying heights and lasting varying lengths of time. It may be remittent—periods of diminution and of increase without complete apyrexia; intermittent—falling to or below normal sometimes each 24 hours; undulant—as seen with undulant fever.
- b. It is often accompanied with or preceded by a chill, a feeling of general malaise and sweating.
- c. It can end by crisis—suddenly, or by lysis—gradually.

2. CNS:

- a. Headache—common, troublesome symptom.
- b. Prostration—varying in its extent, from weakness to extreme exhaustion.
- c. Mental and nervous condition—excitability to delirium; listlessness to coma. Often an incontinence of urine and feces if more severe.

3. GI:

- a. Lack of appetite to persistent vomiting.
- b. Constipation to diarrhea.
- c. Excess gas and dyspepsia very common.
- d. Abdominal pains in some.

4. GU:

Oliguria to uremic coma from lower nephron damage, in severe cases with falling B.P.

5. Respiratory:

- a. Very common with many fevers and varying from mild bronchitis to over-

whelming pneumonia.

- b. Often have upper respiratory infection as an introductory phase of many fevers.

6. Miscellaneous:

- a. General malaise.
- b. Aches and pains.

B. SIGNS:

1. Cardiovascular:

- a. Pulse rate is usually increased in proportion to fever.

- b. BP tends to fall with most of the fevers. Can fall a great deal if get myocarditis or peripheral vascular collapse.

- c. Extrasystoles common.

2. Rash:

Skin eruptions are present with most fevers. There are characteristic eruptions with some of the fevers.

3. Signs of Dehydration:

These are often present such as dry, coated tongue; flushed face; dry skin and mucous membranes.

4. With some fevers signs of involvement of respiratory, CNS and GI systems.

C. LABORATORY:

1. *White blood count:* the height and the differential are very important especially with certain fevers.

2. *Agglutination tests and blood cultures:* are important with a number of fevers, such as typhoid.

3. *Miscellaneous chemistry:* such as chloride determinations in pneumonia.

4. *X-rays:* of great value in certain diseases, such as pneumonia.

**Example of an Outline of an Individual Disease in the Fever Group
Lobar Pneumonia (3rd Week)**

1. Distinguishing traits of lobar pneumonia:

- a. The sudden onset with the severe chill, rapid rise in fever and prostration.
- b. The predominance of symptoms and signs referable to the chest.

2. General Diagnostic Traits:

A. Respiratory Group:

1. Symptoms:

- a. Pleuritic pain in side, usually axillary or mammary; may be referred to shoulder or abdomen. Increased by deep breathing or coughing.

- b. Cough is dry, hacking, and paroxysmal

at first, later productive. Often painful.

- c. Expectoration: sputum pink or blood streaked, early. Later, rusty or prune juice. Still later, yellow and mucopurulent.

- d. Dyspnea frequent early symptom.

2. *Signs:* friction rub possible at all stages. Rapid (25-30 per minute) shallow breathing with expiratory grunt.

a. Early:

1. Limitation motion affected side.
2. May be some dullness on percussion.

3. Quiet or suppressed breath sounds; showers of fine, crepitant rales at end of inspiration or after coughing.
 - b. Well developed: 1. Much less movement affected side. 2. Increased tactile and vocal fremitus. 3. Dullness over affected area and skodaic tympany above. 4. Bronchial breathing (high pitched, tubular).
 - c. Resolution: many moist rales.
- B. Non-Respiratory Diagnostic Traits:
1. Symptoms:
 - a. Fever: following 15-30 minute chill, fever rises rapidly 103-4. Declines by crisis or lysis within 3-10 days.
 - b. CNS: delirium 25 per cent; convulsions, especially children; often headache.
 - c. GI: frequent disorders. Nausea and vomiting, tympanitis, constipation.
 2. Signs:
 - a. Cardiovascular:
 1. Often evidence right heart strain with accentuation P2 and extra systoles, cyanosis and flushed cheeks. 2. Terminally frequently go into peripheral vascular collapse.
 - b. Rash: Herpes labialis is present at least one-third of the cases.
 - c. Signs dehydration: usual with foul mouth and coated tongue.
 3. Laboratory:
 - a. Blood count 15-35,000 with relative increase polys.
 - b. Organisms in sputum and sometimes blood culture.
 - c. Excretion chlorides diminished or suppressed, being retained lungs.
 - d. X-ray: usually makes its appearance at the periphery as a thin triangular shadow with the apex toward the hilum. Later it becomes a solid shadow covering the lobe.
 3. Complications:
 - a. Common Ones:
 1. Empyema. 2. Extension and delayed resolution; abscess lung with Friedlanders and type III. 3. Pericarditis. 4. Meningitis. 5. Otitis media children.
 - b. Less Common:
 1. Gangrene lung. 2. Vegetative endocarditis. 3. Arthritis. 4. Peritonitis. 5. Parotitis. 6. Mediastinitis.

Conclusion

We have given in detail a study of the didactic method which we have used in presenting essential medical information to a class in medicine. What we have done is to systematize knowledge in the field of internal medicine on the basis of essential symptoms and to correlate and integrate the study of physiology and medicine, by teaching the dynamic,

underlying pathological physiology of those particular symptoms.

In outline form a comprehensive approach to the entire group of diseases under consideration is set up based on these essential symptoms and signs. The individual diseases in the group then are considered in relation to the main unit of thought and their variations from this mean thus stand out with greater clarity.

REFERENCES

- DARLING, D. D. and BAUMEISTER, C. F.: "An Improved Technique for Didactic Instruction in Medicine." *Journal of the Association of American Medical Colleges*. March 1947.
- Ivy, A. C.: "Physiology of Symptoms." Mimeographed notes distributed to the medical students at the University of Illinois.

The Teaching of Pharmacology

Experiments, demonstrations, lectures, films and a weekly conference are scheduled in the reorganized pharmacology course at Hahnemann Medical College.

JOSEPH R. DIPALMA

TWO IMPORTANT recent reviews for the first time provide some structural background in the field of pharmacology. They also point out in essence the lack of a natural discipline of methodology in this field.^{1,2}

Such sciences as anatomy, chemistry and physiology enjoy a historical background of approach to learning that is not shared by pharmacology. Here it consists of a conglomeration of skills and techniques with little underlying material to knit the whole together. This fact is reflected in the types of courses given in several of our representative medical schools. One school, for example, stresses the metabolic and enzymatic approach to the action of drugs, another seems to be interested only in bioassay, and still another laboratory does only human experiments with the students.

By and large, perhaps the most apt criticism that can be applied to the average course in pharmacology

is that it is a course in the action of drugs on blood pressure. While it is recognized that diversity of interest is a healthy sign and that it leads to progress, it certainly must be remembered that pharmacology is taught primarily to prepare future doctors for the practice of medicine. It also is important to remember a certain small but important percentage of these future doctors eventually will turn back to the basic disciplines of pharmacology in their later investigative work. In the time allotted to pharmacology in the curriculum, what is the best organization of the subject matter to achieve this purpose?

The answer to this question depends to a large extent on space, staff and facilities. At Hahnemann Medical College, which has average facilities (7,000 square feet of floor space; four teachers, three technicians) the opportunity recently was presented to reorganize the course in pharmacology. The schedule of this course is presented with the idea that it may help others in their thoughts along these lines and that

Dr. DiPalma is professor and head of the department of pharmacology at Hahnemann Medical College and Hospital.

Schedule

Week	Lectures 3 Hours	Laboratory 7 Hours	Demonstrations 1 to 2 Hours	Conference 1 to 2 Hours	Films 1 to 2 Hours
1	Introductory Remarks Volatile Anesthetics	Volatile Anesthetics	Cyanide Poisoning and Antidotes Toxicity of DDT and other Insecticides	None	Signs and Stages of Anesthesia.
2	Opiates Barbiturates Bromides, Aliphatics, etc.	Analgesics	Action of Liver on Barbiturates Emesis & Constipation Drugs on EEG of Rabbit	Volatile Anesthetics—Barbiturates	Technique of Injection in Animals.
3	Anti-epileptic Drugs, Anti-convulsants Cerebral Stimulants, Respiratory Stimulants and Analeptics Anti-pyretics and Analgesics	Respiratory Drugs	Cocaine & Procaine Convulsions and Antagonists Drugs for Parkinsonism	Cerebral Stimulants	Pharmacological Study of Metrazol.
4	Curare and Tolseral Drug Action, Absorption and Secretion, Detoxification etc. Local Anesthetics	Anticonvulsives	Toxicity of Local Anesthetics Toxicity of Rodenticides Carbon Tetrachloride	Drug Antagonism	Toxic Effects of Cyanide, Monoxide and Aniline.
5	Autonomic Drugs Sympathomimetic Amines Sympathetic Blocking Agents Prescription Writing EXAMINATION	Curare	Drugs on the Eye Chemical Structure of Drugs	Anti-epileptic Drugs	Regional Anesthesia.
6	Parasympathetic Drugs Parasympathomimetic Blocking Agents Review of Autonomic Drugs	Blood Pressure	Cholinesterase Amine Oxidase Statistics	Autonomic Drugs	Effect of Drugs on the Heart in Situ.
7	Histamine and Antagonists Digitalis	Cardiac Drugs	Uranium Hydrops Lead Poisoning Arsenic Poisoning	Autonomic Drugs	Effect of Drugs on the Isolated Heart.
8	Quinidine and Related Drugs Water, Salt & Ions, Blood Substitutes Anticoagulants	Skin Drugs	Anticoagulants Ion Exchange Resins Effects of Various Drugs on ECG	Shock	Treatment of Congestive Heart Failure.
9	Diuretics Blood Therapy Iron, Antifernicious Anemia Factors Cancer Chemotherapy EXAMINATION	Cerebrospinal Fluid Pressure	Histamine Anaphylaxis Antihistaminics Aminopterin and Folic Acid	Diuretics	Sex Hormones.

Schedule — Continued

Week	Lectures 3 Hours	Laboratory 7 Hours	Demonstrations 1 to 2 Hours	Conference 1 to 2 Hours	Films 1 to 2 Hours
10	Heavy Metals Cadmium & Beryllium, Arsenic, Lead, Hg. Heavy Metals Radio-active Isotopes Parathyroid and Ca	G. I. Drugs	Vitamins Estrous Cycle of Rat	Art of Drug Therapy	Malaria, Schistosomiasis.
11	Thyroid and Anti- thyroid Drugs Adrenals and Pituitary Male & Female Sex Hormones	Diabetes	Adrenalectomy— Adrenal Hormones Hypothyroidism & Anti-thyroid Substances	Vitamins	Amebiasis.
12	Insulin and Alloxan Sulfa Drugs Antibiotics	Alcohol	Chemotherapy Sulfa Drugs and Antibiotics Toxicity of Strep- tomycin	Sulfa Drugs	Sulfonamide Therapy.
13	Antimalarials Antiprotozoals Anthelmintics & Insecticides & Rodenticides	Trypanocidal Drugs	NONE	Antibiotics	Use of Penicillin in Medicine and Surgery.

it may invite comment and discussion. It is not the best job that could be done and it is hoped that as experience accumulates, constructive changes can be made.

It will be noted that the course spans a period of 13 weeks. The total approximation of the number of teaching hours is 216, which is close to the average for most schools. Each student attends three lectures, one conference, one demonstration and one film per week in addition to the full-day class experiment for that week.

Experiments

The regularly scheduled full-day class experiments for the most part are classical in that they are and have been done in many laboratories.

It is felt that 13 of these experiments are adequate. What is important is that the experiments be carefully selected so as to demonstrate a definite and useful concept or segment of pharmacology. Thus, in this schedule the student learns bioassay in the curare experiment, chemotherapy with arsenicals in the trypanosome experiment, etc.

Some of the experiments selected are newly devised and deserve comment. One is on the reaction of the skin to drugs, certainly an important but often neglected field. In this experiment the student learns to observe and measure the reaction of his own skin and that of his colleagues to the actions of common drugs and vehicles. In another experiment the vast importance of alcohol as a drug,

which certainly is more widely used than aspirin, is emphasized. In this experiment the student ingests a small, but measurable quantity of alcohol, determines its concentration in the blood as it is absorbed from the stomach and, meanwhile, with the aid of appropriate tests, determines the change in mental agility, reaction time and psyche. Opportunity is had to test the effectiveness of stimulants to correct the effects of the alcohol. These two experiments, along with one on analgesics utilizing the Wolff-Hardy machine, provide ample opportunity for the student to learn accurate observations on humans.

It was not felt desirable to have students inject more potent drugs into themselves or to make tedious studies of oxygen tension on anesthetized classmates, etc., as is done in some courses. This imposes a needless risk on the student and a tremendous responsibility on the institution, when the accomplishment is only to teach something which is amply covered in the clinical years. The course in pharmacology provides one place where the actions of drugs may be suitably studied in animals. This should be preserved.

Demonstrations

Since the regularly scheduled laboratory experiments do not provide the students with sufficient opportunity for independent work or thinking, it was decided to let them do individual demonstrations for the benefit of their classmates. These, of course, are planned and supervised by the staff, but the responsibility and the detailed technique of the experiment is left to the student. The experience of collecting data in a chronic experiment, properly eval-

uated, wisely discussed and soundly concluded in a presentation to a critical audience, is the best possible learning experience that a student can have.

It is inevitable that the demonstration experiments vary greatly in complexity. This, however, provides the diversity of experience which characterizes pharmacology. As will be noted, the subjects vary from analyzing statistically a set of data in the literature to a complex, chronic experiment on adrenal hormones with toxicity of insecticides and rodenticides somewhere in the middle. All these skills are properly a part of pharmacology.

The demonstrations serve another important service: they provide coverage of subjects which cannot be taken up well in lectures and are an appropriate way to introduce the countless new drugs which yearly deluge modern therapeutics.

Conference

The weekly conference is aimed at a review of the practical aspects of drug action, toxicity and therapy. Agendas of specific items of discussion are mimeographed well in advance and distributed to the students. The present staff provides for one instructor to 25 students. A smaller ratio would be desirable. Yet even at this ratio, it is surprising what ground can be covered and misconceptions corrected when the material for discussion is prepared by staff and students well in advance.

Laboratory conferences are held at the end of each lab day on the data which the student has just collected. No formal lab books are called for, but the separate groups of students are required each week to hand in a detailed protocol with a discussion

The Teaching of Pharmacology

of its significance. These are simply marked "acceptable" or "not acceptable," with appropriate comments if necessary. All experiments "not acceptable" must be repeated by the particular group of students.

At present there exists a fairly satisfactory catalogue of teaching films pertaining strictly to pharmacological subjects. There is great need for improvement in this field, and the initiative ought to be taken by the pharmacologists themselves in cooperation with appropriate agencies. Available films provide, at best, one or two important elements of teaching. They bring to the student visual evidence of pharmacological techniques in other laboratories, and they serve to fix names and actions of drugs in a dramatic fashion. In our laboratory, films are carefully selected by previewing and those which are shown to the students usually have correlations to the current topic of the week. Often it is desirable to make corrective comments with the films to avoid obvious misconceptions.

Some misgiving may arise from the fact that only two hours are devoted to prescription writing in the form of a lecture and a conference. In relation to the specific material which today must be covered, this is a generous allotment of time. The use of complex, smelly, sticky and dubious concoctions, which once passed as therapeutic agents, now is recognized as placebo practice. Modern therapeutics boasts of sufficient specifics to permit the prescription of a single agent for a particular cause.

It is seldom necessary to dispense more than one drug in a mixture or to put it in liquid form. Indeed, the average patient is well-informed on what he is taking and prefers taste-

less pills or capsules to "medicine-tasting" liquids. When a liquid vehicle is chosen or is desirable as a placebo, an ample selection is available among the official U. S. P. and the national formulary mixtures. The art of prescription writing thus is vastly simplified and, despite the rue of our older colleagues, works to the ultimate benefit of both patient and physician. It also may be mentioned that the metric system is enforced and the use of Latin and confusing abbreviations discouraged.

Lectures

In common with many subjects in medical school, one of the greatest barriers to learning in pharmacology is the nomenclature, in addition to structural formula, dosage, form and usage of an immense and ever-growing series of drugs. This monotonous material, which must be learned, can be more efficiently transfused into the grey cells of the students by the organization of lectures and graphic teaching aids on a high level.

A procedure of lecturing has been adopted in our department which has been most satisfactory. Simple lantern slides of the name, structural formula and dose of each main drug has been prepared. This need not be an expensive undertaking since *Radio-Mat* slides may be made by the secretary of the department at small cost. Slides are projected in a lighted classroom so that the irritation of light intensity changes can be avoided with the obvious advantage that note-taking is not impeded. In addition, exact duplicates of the slides are printed on large charts and posted in the main laboratory for at least a week, current with the lecture. Thus, if a student missed an item he has ample opportunity to make up

his deficit. In the posted charts also are included those which summarize insufficiently stressed material, new relatives of old drugs and such learning pointers as keys to the relationship of chemical structure and function. Lecturing on this plane of organization requires that the lectures be well-distributed among the staff, preparation made months in advance and frequent departmental conferences held to assure uniformity and completeness of thought.

It is felt that one pitfall of lecturing in pharmacology must be avoided: the confusing detail of the many side and minor actions of drugs. For example, an instructor may make the statement that, "Morphine quickens the rate of the isolated perfused frog's heart in dilute solutions, but in more concentrated form slows the rate." All good students will faithfully remember this statement, but they will be unable to tell you that morphine is primarily an analgesic drug. The only purpose of lectures is to help the student by emphasizing what he must learn for himself. If the lecture fails to achieve this aim, it is better to let the student study from the text at his own discretion.

One method of lecturing in pharmacology, still practiced in many schools, is to hand out a mimeographed outline of the lectures to the students. These notes often are out-of-date and incomplete. The lecturer merely comes in and reads from the notes, occasionally making a pertinent remark. This practice cannot be too strongly condemned. It leads to the student philosophy of "why study or read any texts—it's all in the notes." The night before an examination the student memorizes a meaningless gibberish of names, numbers and symbols.

Little time can be devoted to details of therapy with a certain drug in pharmacology lectures. Broad generalities can be laid down and with certain drugs such as digitalis, therapy is so intimately concerned with dosage and toxicity that considerable time is devoted to the actual use of this drug.

For most drugs, however, indications for use and therapeutic abuses for the most part must be left for clinical years. This often leads to criticism from clinicians who complain that students have received a mediocre course in pharmacology because they do not know how to use drugs. The truth is that students in pharmacology are taught about drugs, their uses and toxicities, but the job of actually using them on the patient only can be learned at the bedside with the guidance of more experienced clinicians.

Future Plans

On the other hand, there is a need for pharmacology teaching in the clinical years. This may take the form of therapeutic and pharmacological ward rounds for house staff and senior clerks, and conferences or seminars modeled after the now well-established Cornell Conferences on Therapy where pharmacologists and clinicians cooperate in crystallizing knowledge on the current concepts of usage of a group of drugs. There is little doubt that more of this form of teaching will be established in the future as more sufficiently skilled and interested personnel are acquired.

One unsatisfactory feature of this schedule is the paucity of experiments dealing with the metabolic fate of drugs in the body. Sufficient information has accumulated in the past 10 years concerning the detoxification

The Teaching of Pharmacology

mechanism, metabolic by-products and ultimate fate of drugs in the body to provide a wealth of student experimental material. Unfortunately, these experiments would require a considerable amount of chemical apparatus and reagents beyond present facilities of most departments. It also requires the services of at least one trained chemist and technician. There is no doubt that in the future, pharmacology and, of consequence, its teaching, will deviate toward these lines. As the intimate metabolism of the cell is better understood, the mechanism of drug action will be brought to the cellular level and "lever pharmacology" will disappear.

It is all too well recognized that the course as outlined will not meet the needs of graduate students. Departments which handle such students will have to supplement this schedule with special courses directed towards the more specialized aspects of pharmacology. The subjects of bioassay, chemical structure of drugs and metabolism of drugs certainly should be separate courses. A whole semester easily could be devoted to just heart drugs or antihistaminics.

Such graduate teaching is done in very few medical school departments. If the medical schools are to supply

their own demands for pharmacologists and, in addition, to supply partially the ever-increasing demands of industry, organization in this direction must be planned for in the future. Such expansion is expensive, but it is realistic since there is little chance that universities without medical school departments of pharmacology will undertake this program of instruction.

REFERENCES

1. WILLIS, J. H.: "Pharmacology Today," *The Scientific Monthly*, LXXI, 91, 1950.
2. SALTER, W. T.: "Fifty Years of Medical Progress: Medicine as a Science: Pharmacology," *New Eng. Journ. Med.*, 244, 136, 1951.

AUTHOR'S FOOTNOTE: Since this article was written a qualified chemist has been added to the staff permitting reorganization of certain lectures, laboratory experiments and demonstrations along more basic lines. The department now has graduate students. Therapeutic ward rounds are made for third-year students and house staff of the hospital, and a number of fourth-year grand conferences in medicine are devoted to therapeutic pharmacodynamics. However, the teaching schedule remains for the most part as stated in the above paragraphs.

Laboratory Teaching of Toxicology

The laboratory approach to toxicology can be taught to medical students during their general course in pharmacology.

WALTER M. BOOKER

TOXICOLOGY, regarded as a branch of pharmacology, is little emphasized in the general course in pharmacology, particularly in the laboratory. For the most part, there is little time in the general course in pharmacology to devote to the laboratory teaching of toxicology from the point of view of the effects and recognition of the train of symptoms caused by noxious agents, the mechanism underlying such symptomatology and the treatment of choice.

The importance of toxicology in the medical curriculum, however, is such that some time should be given in the laboratory not only to the aspects mentioned above, but to the several laboratory procedures employed in the detection of poisons and the medico-legal aspects growing out of positive or negative findings.

Indeed, many students of medicine may find themselves subsequently in research laboratories of toxicology, particularly during times of national emergency.

In normal times they may be employed as junior or senior toxicologists of a city, county or state. Establishment of a concept of the

importance of the toxicological approach in the laboratory, therefore, is of utmost importance to the medical student.

In view of the very limited amount of time that can be devoted to this subject, it becomes necessary to devise a method or methods by which the fundamental material may be presented for class teaching in a short time. This may be accomplished by properly dividing the responsibility of the work in the class with group demonstrations and discussions.

The author previously has called attention to the "project method as a laboratory teaching technique"* and although our procedure for teaching toxicology in the laboratory cannot be called a project method, it serves as an interesting sequela since the work in toxicology follows the projects given in the early part of the semester.

Program Organization

To attain our aims, our teaching is organized as follows:

An attempt is made to cover the work outlined below in five labora-

Dr. Booker is associate professor of pharmacology at the Howard University Medical School.

*Booker, Walter M.: *Journ. Am. Med. Assn.*, November 1944.

tory periods of three hours each. At the first experimental period devoted to toxicology, "stomach contents" containing volatile and non-volatile poisons are arranged in appropriate distilling set-ups. Adequate samples of distillate are furnished each group of students for detecting the common volatile poisons. Samples of the residue are distributed for detecting the common nonvolatile noxious agents.

Meanwhile, the class is divided into the "gas group," the "alkaloid group" and the "heavy metal group." Each group has a chief and the chiefs meet with the instructional staff several days before the demonstrations are to be held in order to discuss subdividing the groups, properly organizing the work with each group and coordinating the scheduling of the demonstrations. Subdivisions are made so that each group of two to four students will handle the demonstrations of acute and chronic effects of the toxic agents in the gas, alkaloid and heavy metal classification.

By the third laboratory period, the first acute demonstrations of the effects of the noxious agents are held with a spokesman of the sub-groups of each larger group in charge. The spokesman is responsible for discussing the route of administration of the drug, the effects expected, the mechanism involved, the clinical relationships and the medico-legal aspects which may be of interest or importance.

At death of the animal, necropsy findings, when important, are presented. Antidoting effects also are demonstrated in parallel experiments. The mechanism of the treatment is discussed. The class is urged to question the demonstrators, who must be prepared to defend their presentations. The class is responsible for the work presented.

The last two periods are devoted to consideration of chronic preparations, work which was started several days prior to presentation. The demonstrations are conducted according to the same plan followed in the acute work.

Comment and Summary

It is the firm belief of the author that this plan allows for presenting the principles of toxicology to medical students in the general course in pharmacology, and also creates in the students a feeling of sharing the responsibility for the success of a pedagogical idea as well as enthusiasm in the laboratory for what could be a medico-legal replica. The ability of the discussants to defend themselves as "toxicologists" is excellent training in the opinion of the author.

This approach to toxicology is offered with a view of acquainting others with our methods and with the hope that it might be tested elsewhere under a different set of circumstances.

Editorials and Comments

Part-Time Teachers

THERE ARE many factors which contribute to the successful operation of a school of medicine. Some people, particularly the public at large, are likely to focus their attention on large and beautiful buildings which they can see as they drive or walk past the school. Other people are more impressed with the affiliated hospital, depending on the type of care they or their friends have received there or how good the meals were. Still others, for altruistic or personal reasons, base their evaluation on the amount and nature of research undertaken.

Those who really look inside and are critical know that a school is great, not just because of buildings, or the niceties of care, or the quality of meals, or the number of published papers, but primarily because of the superior quality of the student body and faculty. Buildings, good administration and efficient maintenance are necessary, but are clearly secondary to the intellectual capacity and originality of the men and women who make up the faculty and student body. Both the faculty and students are, in fact, students working at different levels of learning.

A faculty member should be selected or promoted on the basis of his knowledge, his ability, his drive and his capacity as a teacher. These qualities are not limited to those who elect to become full-time teachers and thus devote their ma-

jor interests to education and research. A loyal devoted part-time faculty can make a large and significant contribution to medical education.

The reputation of a medical institution is the sum total of the reputation of the human beings which compose it. Thus, the able faculty member, full-time or part-time, contributes individually to the prestige of the institution and in turn shares in the total prestige.

The part-time faculty member through his contacts with students becomes a better physician himself. There is nothing more stimulating to the development of a critical attitude than the questions of the young inquiring mind of a student. The atmosphere of the university medical center provides opportunities for the faculty to teach each other and to enlarge their knowledge and abilities. Grand rounds, journal clubs, operative clinics, history meetings and the like are in one sense nothing more than super-graduate courses for the faculty. The part-time faculty member can both contribute and learn in these courses.

In return for this opportunity to be a student with students, the part-time member contributes to the institution. As a faculty member, because of his contacts in the community, he can interpret the institution, its problems and objectives, to the people, medical and nonmedical, in the city and region. In the educational program based

on the precepts of small group instruction and careful supervision, the part-time faculty member can make possible a better quality of education.

Thus, as with all things in life, the part-time faculty member both gains and contributes; there are obligations as well as responsibilities.

Robert A. Moore,
Special Editor, April 1953 Issue

Educational TV Channel Reservations and Medical Schools

ON APRIL 14, 1952, the Federal Communications Commission reserved for a period of one year one educational television channel in each major community in the United States. The medical college will have no share in the use of an educational TV channel if the community fails to establish a station.

While there is no way of estimating the future value of a TV station for medical education, each medical school is concerned that its share in TV education should not be jeopardized because it has not had adequate time to define the potential role an educational TV station can play in medical and health education. Two uses already are foreseen: informing the lay public about medical sciences; and the transmission of scrambled messages for practicing physicians, whose personal receivers can unscramble the messages.

The reservation of educational TV channels for a minimum of three years has been asked of the Federal Communications Commis-

sion by the Department of Audio-Visual Instruction of the National Education Association, in a resolution passed at its 1953 convention, February 24-28. This additional two years would enable educational institutions and cooperating bodies to plan and provide for budgets that are necessary for television installation and programming. The Department of Audio-Visual Instruction feels that the time limitation of one year is unrealistic and unwise.

Television channels represent a natural resource and as such logically should be conserved for maximum usefulness. Ninety per cent of the TV channels are available presently for commercial use, and many educators believe that the remaining 10 per cent should be reserved permanently for educational use. Surveys currently under way indicate that an additional commercial station in a community does not add to the variety of programs offered.

The potentialities, problems and progress of television as an aid to medical teaching are described in two articles published in the *Journal of MEDICAL EDUCATION*: "Medical Education and Television," which appeared in July 1951, and "Television: Monster Growing Larger," printed in January 1953.

If the medical college believes television can make an important educational contribution to the school and the community, the medical college should guard its future access to TV by instituting or assisting cooperative bodies seeking a station permit or reservation, and

by supporting the efforts of organizations such as the National Education Association.

The World Conference on Medical Education

IN A FEW months the first World Conference on Medical Education will convene in London. "Improvement of medical education" will be the basic theme for the August 24-29 conference, which is sponsored by the World Medical Association with the cooperation of the Council for International Organizations of the Medical Sciences and the International Association of Universities.

The conference will be divided into plenary and group sessions, with the large plenary meetings on the first, fifth and sixth days. Topics and questions to be considered are: The Challenge to Medical Education in the Second Half of the 20th Century; What Is Education?; The History of Medical Education; Medicine—a Technology or a Profession?; Has Medical Education Kept Pace with the Rapid Development of Medical Science? Final plenary sessions will summarize the discussions of the smaller groups.

Four smaller group sessions will meet concurrently on the second, third and fourth days of the conference. Each will consider a specific subject: (1) requirements for en-

trance into medical studies; (2) aims and content of the medical curriculum; (3) techniques and methods of medical education; (4) preventive and social medicine. Prepared papers, talks by selected participants and general discussions will be included in the group sessions.

Simultaneous translations in English, French and Spanish will be carried out during the conference. A special issue of the *British Medical Journal* will be distributed which will provide a summary of the status of medical education in various parts of the world, and publication of the proceedings of the conference is planned for a later date.

Invitations to attend the six-day meeting have been sent to representatives of medical schools in many parts of the world, and to national and international bodies. Other persons interested in medical education or any other aspect of the conference will be welcomed.

The Seventh General Assembly of the World Medical Association will be held at The Hague, August 31—September 7, soon after the conference. An itinerary for those persons in the United States interested in attending both meetings has been arranged by the U. S. committee of the WMA, 2 E. 103rd St., New York 29. Individual reservations can be made, but they should be completed as soon as possible.

NEWS DIGEST

Internship Matching Program

Eighty-five per cent of students participating in this year's National Internship Matching Program were matched with their first-choice internship. An additional 10 per cent received the internship rated as their second choice. Thus, 95 per cent of all students in the plan received either their first or second choice.

The disparity between the number of internships offered and graduates available to fill them continued this year at about the same ratio. Some 6,033 students participated in the plan, while 10,971 internships were available. All but 289 of the students making applications were successfully matched. Under the matching plan agreement, these students then dealt directly with the hospitals still having vacancies.

The matching plan places no restrictions on the student as to the number of internships for which he may apply, or on hospitals for the number of internships they may offer. Students apply directly to the hospitals, then send to the matching program headquarters a list of the internships for which they applied

in order of preference. Hospitals do the same with applications they receive.

To provide speed and accuracy, information obtained is transferred to punched cards and the actual matching is done by punched-card machines. No student is matched to a hospital for which he did not apply, and hospitals are matched only with students they have indicated they wish to accept.

Procedure in the matching program was nearly identical with that of last year. Chief exception was the requirement this year that both students and hospitals had the same deadline date for returning their confidential rating lists to NIMP headquarters. In the first year of the plan, students sent in their rated applications first, then lists of students were sent to each hospital for their rating of the students. Negotiations which took place between the time the students sent in their ratings and the time the hospital ratings were received resulted in many last-minute changes which it was hoped would be decreased by the change adopted this year. While some

STUDENT NAME	STUDENT NUMBER	INTERNSHIP RANK	HOSPITAL NAME	HOSPITAL RANK
JOHN DOE	12345	1	HOSPITAL A	1
JOHN DOE	12345	2	HOSPITAL B	2
JANE SMITH	67890	3	HOSPITAL C	3
JANE SMITH	67890	4	HOSPITAL D	4
BOB JONES	11111	5	HOSPITAL E	5
BOB JONES	11111	6	HOSPITAL F	6
ALICE BROWN	22222	7	HOSPITAL G	7
ALICE BROWN	22222	8	HOSPITAL H	8
CHARLIE GREEN	33333	9	HOSPITAL I	9
CHARLIE GREEN	33333	10	HOSPITAL J	10

SAMPLE CARD on which was punched information regarding the applicant and type of internship.



John M. Stalnaker, director of operations, and E. C. Smith, special assistant, check a list from the IBM tabulator which was used in the matching procedure.

extra clerical work at headquarters was required by the present system, it helped prevent undue pressures on participants in the plan.

Internship matching is a year-round program for staff members of the National Intern Matching Program, Inc. Advance work includes preparation and mailing of lists of participating students and hospitals. February 2 was the deadline date for receipt of rating lists this year, and all participants were notified on March 16 of results of the matching.

Matching was successful for the 28 couples participating this year. Upon request, married and engaged couples are matched to the same hospital.

This year's participants included 85 foreign students, 71 of them Canadian. All but 13 were successfully matched.

The matching plan has gained increasing support from students and

hospitals since its inception last year. It was proposed in 1950, but the first participants were 1952 graduates. The plan has been found impartial and orderly, helping to relieve pressures on both students and hospitals.

Now that nearly all hospitals participate in the plan, agreement forms will be sent out early enough so that the internship issue of the *Journal* of the American Medical Association, published in September, will contain complete information on participating hospitals. Reprints from the internship issue from the *AMA Journal* will become the official directory of participating hospitals for senior students.

To facilitate this improvement, agreement forms for participating hospitals have been distributed this year by the AMA along with its internship questionnaire.

Now operating under the new name of National Intern Matching Program,



Ellen and Hyman Cohen, senior medical students at the University of Illinois, receive congratulations from the director of student affairs, M. J. Galbraith, on appointments to their first choice internships. Mr. and Mrs. Cohen will intern at Methodist Hospital in Gary, Ind. The Cohens were one of 28 couples successfully matched in the recent program.

Inc., the corporation is owned and controlled by the Association of American Medical Colleges, Council on Medical Education and Hospitals of the American Medical Association, American Hospital Association, American Protestant Hospital Association and the Catholic Hospital Association. The directors include student representatives. Various government services are also represented.

The new title was adopted as more definitive of the work of the organization, which is limited to the matching procedure. The former title was the National Interassociation Committee on Internships.

Officers of the organization are: president, Dr. F. J. Mullin; vice-president, Dr. Edwin L. Crosby; secretary-treasurer and director of operations, John M. Stalnaker. Members of the Executive Committee are: Dr. Edward H. Leveroos, Dr. Mullin and Dr. Crosby.

Institutional Research Policy

The Committee on Institutional Research Policy of the American Council on Education has issued a preliminary report to furnish information and receive comments from those concerned with the problems of sponsored research. These prob-

lems have grown as the amount of research money has increased, and it is estimated that financial support of government research alone is now in excess of \$150 million.

Warning against an imbalance between the normal program of an institution and work done for the government, the committee believes that colleges should not undertake classified military research unless it is obvious they have the men, experience and facilities to do the work better than other agencies. At any rate, government research should be closely related to the program of the institution. Universities are cautioned to determine the entire cost of sponsored research and either receive grants to cover both direct and indirect costs or recognize that the school is making a specific contribution to the project.

Restrictions on publication of research results are considered by the committee as particularly dangerous, because secrecy is incompatible with the basic concept of an educational institution as a source and dispenser of knowledge.

Of particular concern to the committee is the disparity between the amount of research money available for basic and applied research. All agencies supporting research are

urged to allow as much money as possible for fundamental research.

Copies of the preliminary report have been ordered and may be obtained from AAMC headquarters, 185 N. Wabash Ave., Chicago 1.

Psychiatry Research Fund

Yale University has announced receipt of a gift of \$6 million from the Social Research Foundation for establishment of the foundation's Fund for Research in Psychiatry.

The fund will be administered by a board of directors of which Dr. Frederick C. Redlich, professor of psychiatry, is chairman. Other members of the board are Dr. Vernon W. Lippard, dean of Yale University School of Medicine; Dr. Charles D. Aring, University of Cincinnati; Dr. John Benjamin, University of Colorado; Dr. David Shakow, the University of Illinois; Dr. George W. Thorn, Harvard, and Dr. John C. Whitehorn, Johns Hopkins.

The fund will provide assistance to Yale and other universities for basic research in psychiatry and related behavioral sciences.

Financial Aid

Figures recently released by the John Price Jones Company, Inc., consultant and manager for institutional financing, indicate that a new high in financial aid to colleges was set in the academic year 1951-52. Institutions received \$121,729,000, a 10.9 per cent increase over the previous year.

Among organizations engaged in the raising of funds for higher education is the newly organized Council for Financial Aid to Education, a New York organization designed to serve as a clearing-house for prospective contributors and educational institutions. Support is expected from philanthropies such as Ford, Sloan, Rockefeller and Carnegie foundations.

The National Fund for Medical Education is presently engaged in or-

ganizing regional divisions to promote private financial support. Meetings were scheduled for Omaha, Des Moines, Detroit, Chicago, St. Louis, Cleveland, Pittsburgh, Denver, Seattle, San Francisco and Los Angeles.

The National Association of Manufacturers has announced that it is establishing a committee on the financial needs of education, to study financial requirements from grade school through college. Results will be distributed widely to businessmen.

AMA Approves Health Department

A proposal to establish an independent Department of Health, Education and Welfare in the federal government was approved by the American Medical Association's House of Delegates at a special meeting March 14 in Washington, D. C. Suggested in the proposal was the creation of a special position, to be held by an assistant secretary for health and medical affairs.

Organization of an independent department of health has been favored by the AMA for a number of years with the reservation that such a department might become too powerful. Members of the House of Delegates felt, however, that the three-in-one structure, including health, education and welfare, could minimize that danger by helping state and local organizations retain their proper share of responsibility.

New Medical Specialty

Diplomate status for qualified physicians seeking certification in aviation medicine was approved in February by the American Medical Association, according to a formal notice received by the Air Force School of Aviation Medicine. Subspecialty certificates will be awarded through the American Board of Preventive Medicine and Public Health. In cooperation with the AMA, sponsoring organization for specialty groups, the board will supervise

standards for undergraduate and postgraduate training, requirements for postgraduate practice and qualifying examinations for candidates seeking certification in aeromedicine.

Recognition came after a five-year campaign by aeromedical leaders to secure board certification for specialists in aviation medicine. While techniques of the specialty were developed largely within the Navy and Air Force, it is no longer exclusively a military field. A number of civilian institutions, including the Mayo Clinic, already offer residencies in aviation medicine. A year-long course is taught at Johns Hopkins, and Harvard and other schools are prepared to train students in aeromedicine.

The Trojan Dog

The National Society for Medical Research is currently engaged in a campaign to defeat a proposed District of Columbia "Trojan Dog" pound bill which, if passed, could seriously affect medical research in the universities and government lab-

oratories of the District of Columbia.

HR 212, sponsored by Representative Auchincloss of New Jersey, would "authorize the commissioners of the District of Columbia to enter into agreements with certain organizations to carry out the functions of the poundmaster of the District of Columbia and for other purposes."

Transferring the government function to private hands would subtract a money-making operation from the government, give legislative and police power to a private agency, with possible limitations on the use of animals for research.

Einstein College of Medicine

Dr. Albert Einstein has given his name to the proposed new medical school of Yeshiva University in New York. The new medical college is to be erected in the Bronx. About \$3 million has been raised toward the \$10 million needed to construct and equip the new school which, upon completion, will have an enrollment of 400 students.

Teaching Developments

MEND Committee

Coordinators and committee members from schools participating in the Medical Education for National Defense pilot programs met with representatives of the Armed Forces in Chicago, February 10 for a tentative evaluation of the program, which has been in operation for a year.

Reports were heard from coordinators in each of the five participating schools: Vanderbilt, Buffalo, Cornell, California and Illinois. Dr. Stanley Olson, Baylor, is chairman of the group.

It was unanimously agreed that funds be requested from the Armed Forces Medical Policy Council at the

rate of \$15,000 per school per year to extend the MEND program to all medical schools who wish to participate, beginning with the academic year 1954-55. The motion was recommended to the Executive Council of the AAMC for its consideration.

The relative merits of ROTC and the MEND program were discussed. It was agreed that it seemed impractical for individual medical schools to make strenuous efforts to retain approval of their medical ROTC program unless it served a useful purpose in their own school. It was felt that the MEND program was a more realistic approach to the problem of training medical men for military service.

The committee emphasized that for

the program to succeed, schools should have complete freedom in developing the program under the leadership of a responsible coordinator.

A conference was scheduled for June 29-30 in Washington, D.C., to make plans for presentation of the program at the annual meeting of the AAMC in Atlantic City next October.

Plan Yearly Schedule

Beginning in June, senior medical students at the University of Michigan Medical School will attend school on a 12-month basis. Dean Albert C. Furstenberg, in making the announcement, said that the change would enable the seniors to study more patients and make it easier for them to obtain externships and other practical experience.

Under the new plan, the senior year will consist of five periods of study, each nine weeks long and followed by seven days' vacation. The senior class will be divided into five groups of about 30 students each. Each group will attend four of the five study periods. Thus, there will

always be a group on vacation, and each senior will have from 11 to 13 weeks of vacation during the year.

Institute on Medical History

An Institute on Medical History, sponsored by the New York Academy of Medicine, was held in New York, March 13-14. The institute, with 60 participants from the United States and Canada, was devoted to a study of the function of medical history in medical education and in other phases of contemporary medicine.

The following doctors addressed the institute: Alexander Tertius Martin (president, New York Academy of Medicine), Alan Gregg (Rockefeller Foundation), Paul Schreckler (Pennsylvania), George Rosen (Columbia), Erwin Ackerknecht (Wisconsin), Gilbert Highet (Columbia), John F. Fulton (Yale), Owsei Temkin (Johns Hopkins), Iago Galdston, Frank J. McGowan and Gregory Zilboorg (New York Academy of Medicine).

Transactions of the institute are to be published at a later date.

Meetings

Conference on Higher Education

Approximately 1,000 educators attended the eighth national Conference on Higher Education, sponsored by the Association for Higher Education, branch of the National Education Association. The meetings were held March 5-7 at the Congress Hotel, Chicago. Theme of the conference was the re-examination of responsibilities and opportunities of higher education.

Opening address at the first general session, delivered by Dr. Dean Rusk, president of the Rockefeller Foundation, asked the question, "What Developments in the Next Ten Years Will Change the Conditions under which Higher Education Works?"

Dr. Rusk suggested one way to

relieve the financial plight of higher education might be to request the successful college graduate to pay the actual cost of his education. "It seems reasonable that an alumnus should be aware of the difference between the actual cost of his education and what he himself paid for it, and that he should consider it an obligation to pay that difference to his college or university insofar as a conscientious application to himself of a means test would suggest," he said.

Dr. Rusk felt that corporate giving was another largely untapped source of income, but emphasized that it is up to the universities to make their situation fully understandable to people outside the universities before the schools can ex-

pect support. Examination of costs, he felt, was in order, and might result in some economies.

Other speakers at the opening session included Oliver C. Carmichael, president of the Carnegie Foundation for the Advancement of Teaching, who said that changes in education have been determined largely by pressure rather than planning. The Very Rev. Paul C. Reinert, S.J., president of St. Louis University, and Ruth O. McCarn, assistant dean of students at the University of Chicago, also addressed the group.

Following the opening session, the conference divided into 16 discussion groups which met for the remainder of the day.

Several of the discussions held special implications for medical schools. One section considered the question, "How may higher education and non-educational groups—business, industry and labor—cooperate more effectively?" Its members concluded that such cooperation was essential. Group plans to raise funds from business are now being carried out in 24 states. The public relations value of such projects was emphasized, as corporations appear to have genuine interest in those colleges they help support. Labor does not contribute to the support of higher education to any great extent, and there was general agreement that such support is needed.

The group discussing the impact of a prolonged period of mobilization and military preparedness on the colleges and universities concluded that a continuing deferment policy should make it possible for an appropriate number of men to complete college and professional training prior to induction into the armed forces, in order to provide essential, specialized personnel. It was agreed that the public needs to be educated to the basic soundness of this position.

A discussion of the future of television centered chiefly around the financing of educational television,

1953 BORDEN AWARD

Nominations for the 1953 Borden Award in the Medical Sciences will be accepted until July 1. The Award, presented each year since 1947 by the Association of American Medical Colleges and the Borden Company Foundation, is given for "outstanding research in medicine conducted by a member of the faculty of an affiliated college" published in the preceding five years.

Nominations may be submitted by any faculty member connected with a medical school holding AAMC membership. Five copies of each nomination should be submitted, containing the academic history and scientific accomplishments of the candidate and a reasoned statement of the basis for the nomination. Suggested names and supporting evidence should be sent to Dr. Dean F. Smiley, AAMC secretary, 185 North Wabash Ave., Chicago 1. All nominations will be turned over to the Borden Award Committee after July 1, and the Award recipient will be announced at the Annual Meeting in October.

Only one award will be made in any one year. If two or more persons have collaborated on a project selected, the Award will be presented to the group and replicas of the medal given to each collaborator. A nominee who fails to receive the Award may be nominated for the same work in a subsequent year.

since there was complete agreement that it is a most effective educational tool. Several financing plans were discussed, among them: obtaining appropriations from state legislatures, joint committees of schools and citizens to form nonprofit corporations, use of private funds, granting of joint license to private institutions and boards of education and inter-school cooperation.

Principal speaker Thursday evening, March 5 was Sen. Wayne Morse (Ind., Ore.), who discussed "The Essence of Political Liberalism." He reminded educators that universities are the citadels of liberalism, and that teachers have responsibility for the ethical education of students.

Heard at the March 6 general session were Gordon K. Chalmers, president of Kenyon College; Harold W. Stoke, dean of the graduate school, University of Washington, and Ernest

V. Hollis, chief of college administration, U. S. Office of Education.

Dean Stoke said that higher education today is more nearly oriented to the demands of technical and professional education than any other kind, but this concern is insufficient. He cautioned against narrowing ideas of education to produce "the man of competence" but not "the man of learning."

This thesis was elaborated in the group discussions which followed the general session. In considering the question, "What are the implications of present and future responsibilities and opportunities of higher education for the natural sciences?", it was agreed that scientific personnel needed a wider base on which to build their special training. Social sciences, humanities and philosophy were recommended as proper parts of the undergraduate and graduate programs for prospective scientists.

Dean Richard H. Young of the Northwestern University School of Medicine was chairman of the group considering graduate and professional education. The necessity to reorganize graduate courses to include increasing factual information while not neglecting underlying principles was discussed. Group analyst Dean Paul Hudson of the Ohio State University Graduate School stated that, "graduate work is suitably measured in terms of scholarship and original thinking, rather than by the degree of mastery of factual knowledge and techniques."

Consideration of the preparation of college teachers occupied one of the discussion groups. It was generally agreed that colleges and universities should assume the responsibility of helping new teachers improve their classroom abilities. In-service training programs should include discussion of community relations, academic freedom and student-teacher relationships.

It was considered generally desirable that students participate more

in the learning process, instead of being passive listeners to lectures. Periodic evaluation of teaching efficiency was recommended, for both new and experienced personnel.

Final general session of the conference on March 7 consisted of a series of brief informational reports, a business meeting and presentation of resolutions.

William S. Carlson, president of the State University of New York, delivered the concluding address on "The Challenge to Higher Education." He reminded the conference of the vital importance of education to the nation and the world. "We educators may forget in our daily rounds of lectures, examinations and committee meetings that we are engaged in a great enterprise," he said. "Ours is the enterprise of preserving, transmitting and creating civilization."

A printed report of the conference will be available soon from the Association for Higher Education, 1201 Sixteenth Street, N.W., Washington 6, D.C. It will contain all addresses and summary reports of the discussion groups.

World Medical Association

Men from a dozen medical colleges and a score of specialties will address the First Western Hemisphere Conference of the World Medical Association at Richmond, Va., April 24.

New uses in medicine for atomic particles, hormones and blood fractions, advances in surgery of the heart, lungs and pancreas, and new applications of psychiatry in the family doctor's day-by-day practice will be explored at the gathering of physicians from 48 states and the medical societies of Latin America.

Medical schools with which participants are affiliated include Johns Hopkins, Harvard, New York University, Northwestern, Chicago, Wayne, North Carolina, Baylor,

Emory, Minnesota, Stanford, the University of California at Los Angeles, and various Latin American schools.

Health Education Conference

The 1953 Eastern States Health Education Conference of the New York Academy of Medicine will be held April 23-24. The subject of this

year's conference will be the sociology of health education. In this program the sociologist, the anthropologist and the social psychologist will analyze, from the viewpoint of their special disciplines, the functions of health education, with special emphasis on the problems of communication.

Fellowships, Grants, Awards

Markle Foundation

Twenty-one doctors, all faculty members of medical schools in the United States and Canada, have been appointed as the sixth group of scholars in medical science by the John and Mary R. Markle Foundation. The foundation has appropriated \$630,000, to be granted at the rate of \$6,000 annually for five years to the schools where they will teach and carry on research.

A total of more than \$3,200,000 has been appropriated toward the support of 111 doctors in 55 schools since the program began in 1948.

Doctors selected as Markle Scholars are: William G. Anlyan (Duke), Malcolm Carpenter (Columbia), Jack Davies (Iowa), Heinz F. Eichenwald (Cornell), Melvin M. Figley (Michigan), Bernard Fisher (Pittsburgh), Robert S. Fraser (Alberta), W. L. Henry (Howard), William S. Jordan (Western Reserve), Rodney C. Jung (Tulane), C. Frederick Kittle (Kansas), John C. Laidlaw (Toronto), George D. Ludwig (Pennsylvania), James R. McCorriston (McGill), Theodore H. Noehren (Buffalo), Robert W. Noyes (Stanford), Clarence N. Peiss (St. Louis), George D. Penick (North Carolina), William F. Scherer (Minnesota), Donald P. Shedd (Yale), Barton Childs (Johns Hopkins).

Heart Association

The American Heart Association

and affiliates have announced the awarding of a total of \$285,400 to 51 scientific investigators working toward the prevention and control of heart diseases. Awards are in the forms of fellowships and investigatorships for individuals engaged in basic and applied scientific studies. Recipients represent 22 medical schools.

The latest joint research awards include support for one continued career investigator, six new established investigators, 14 continued established investigators, 21 new research fellows and nine renewed research fellows.

The career investigator, who receives an annual grant from the association throughout his productive career, was continued for the third year. The recipient of this award, Dr. Victor Lorber, has transferred his research activities from Western Reserve to the University of Minnesota. He is engaged in a study of chemical processes within the heart muscle. His investigatorship is the first position of its kind established in the voluntary health fields for the encouragement of unrestricted, lifetime medical research.

Damon Runyon Fund

Seven institutions received grants from the Damon Runyon Memorial Fund for Cancer Research in February. Grants totaled \$50,900. Medical schools represented included Columbia University College of Physicians and Surgeons, which received

\$15,000 for a project on "Combination of Chemotherapy in Cancer" under the direction of Dr. David V. Habif, and Harvard, which received \$10,000 for the continuation of a proj-

ect under Dr. Benjamin F. Barnes on "The Action of Paraphenylenediamine on Living Cells."

Research grants made to date by the fund total \$6,370,359.

College Briefs

University of Arkansas

The Arkansas Heart Association has given \$7,000 for a study of the relation between chronic heart diseases and disorders of the endocrine glands. Dr. BENJAMIN B. WELLS, professor of medicine, will supervise the work.

Boston University

University nursing, social work, medical training and service to the community were topics discussed at a Founder's Day Public Forum on March 12. The forum was part of a five-day institute on "The University and its Community." Community services provided by the university include a home medical service carried on in Boston's South End by fourth-year students, a network of 44 hospitals in Maine and Massachusetts linked in a regional nursing education program, a cooperative social welfare program, and a number of other training and service programs that unite training with practical application.

University of Buffalo

In conjunction with the local medical societies in Erie County and the New York State branch, the school of medicine is presenting a post-graduate course in pediatrics at the Children's Hospital of Buffalo. The course started March 18 and is given on consecutive Wednesdays.

University of California (S.F.)

Revisions in current concepts of the chemistry of the human brain are resulting from research by Dr. H. W. ELLIOTT, lecturer in pharmacology, and V. C. SUTHERLAND, grad-

uate student. The research utilizes human brain tissue taken from mentally ill persons who receive lobotomy operations.

Chicago Medical School

Dr. SIDNEY FARBER, director of research of Children's Cancer Research Foundation of Boston, will deliver the fourth annual Maurice Oppenheim Memorial Lectureship. His subject will be "The Nature and Treatment of Certain Lipid Metabolic and Related Disorders."

Friends of the late Dr. HOWARD SLOAN have given a research grant of \$500 a year for the department of physiology. Dr. Sloan, an alumnus, served as student health officer and was a research fellow in the department of physiology.

Dr. MAURICE H. COTTLE, professor and chairman of the department of otolaryngology, gave a course in "Reconstructive Surgery of the External Nasal Pyramid and Nasal Septum" at Washington University, February 28-March 7.

University of Colorado

A record number of physicians are enrolled in graduate training courses this winter quarter. Twenty-eight of the 224 doctors taking the graduate courses are from 18 foreign countries. The medical center is one of the few in the United States offering general practice residency training along with the specialties.

The retirement of FRANKLIN G. EBAUGH from the full-time faculty was the occasion for a dinner given in his honor by friends, students and colleagues. He had completed 28 years of service as professor and head of

College Briefs

the department of psychiatry, and director of Colorado Psychopathic Hospital.

Columbia University

JOHN G. JACKSON, life trustee of Columbia University and chairman of the Council on Medical Affairs, has been named chairman of the steering committee for Columbia's Bicentennial Fund for the Medical Sciences. The announcement officially launched a multi-million dollar campaign to satisfy urgent needs of the medical program. Funds will be used to provide additional staff, salary increases, more fellowships, additional scholarships and new equipment. Construction of a new building at an estimated cost of \$3 million is planned to house the medical library and provide adequate auditorium facilities. Mr. Jackson has set a goal of \$750,000 by June 30.

Cornell University

Ground was broken for a \$2,550,000 student residence, Frank W. Olin Hall, early last month. The building will be 10 stories high and will contain 280 rooms for men and women medical students in addition to meeting rooms, lounges and recreation facilities. It is expected to be completed by late spring of 1954.

Dean JOSEPH C. HINSEY, speaking at the recent annual meeting of the Broome County medical and dental societies and bar association, said that he considered it inadvisable to depend upon federal aid to medical education. "I believe that the entrance of the federal government into medical education in any extensive way to provide for undergraduate education will be the opening door to extensive government participation in all fields of education," said Dr. Hinsey.

Duke University

Dr. JOSEPH B. PARKER JR. joined the staff April 1 as associate professor of psychiatry and chief of psy-

chiatric service at the new Veterans Administration training and research hospital. He was formerly at the University of Tennessee.

Medical College of Georgia

A training course for cardiovascular investigators will be offered by the departments of physiology and pharmacology beginning July 1. This 12-month training program in the disciplines of cardiovascular research, for a limited number of qualified individuals, will be supported by the National Heart Institute of the Public Health Service. The research traineeships carry an annual stipend of \$3,400. Queries should be addressed to Dr. W. F. HAMILTON, department of physiology or Dr. R. P. AHLQUIST, department of pharmacology.

Harvard Medical School

A grant of \$15,000 from the Lasdon Foundation, Inc., to support research for the further study of the transplantation of vital organs in human beings, has been announced. Dr. GEORGE W. THORN, Hersey professor of the theory and practice of physic and physician-in-chief of Peter Bent Brigham Hospital, and Dr. BENJAMIN F. MILLER, lecturer on medicine and senior associate physician at the hospital, are members of the team of physicians conducting the research.

University of Illinois

The 10th D. J. Davis lecture on medical history will be given on May 6 by Dr. RICHARD H. SHRYOCK, director of the Institute of the History of Medicine, Johns Hopkins University. The title of his lecture is "Changing Concepts in American Medicine over Three Centuries."

Jefferson Medical College

Dr. GARFIELD G. DUNCAN, clinical professor of medicine, has been appointed chairman, and Dr. W. PAUL HAVENS JR., clinical professor of mi-

crobiology, has been named to a national board of internists by the Surgeon General of the Army to complete the history of internal medicine in World War II.

A renewal grant of \$14,190 from the Air Research Development Command for the study of adrenal-thyroid-pituitary interrelationships in animals subjected to stress has been made to Dr. A. CANTAROW, professor of biochemistry; Dr. KARL E. PASCHKIS, associate professor of medicine; and Dr. SAVINO A. D'ANGELO, associate professor of anatomy.

University of Kansas

The Life Insurance Medical Research Fund has made a two-year grant for research in circulatory system disease under the direction of Dr. KENNETH E. JOCHIM, assistant dean and chairman of the physiology department. Dr. BYRON T. EBERLE, who holds a postdoctoral fellowship from the Public Health Service, will be the research associate.

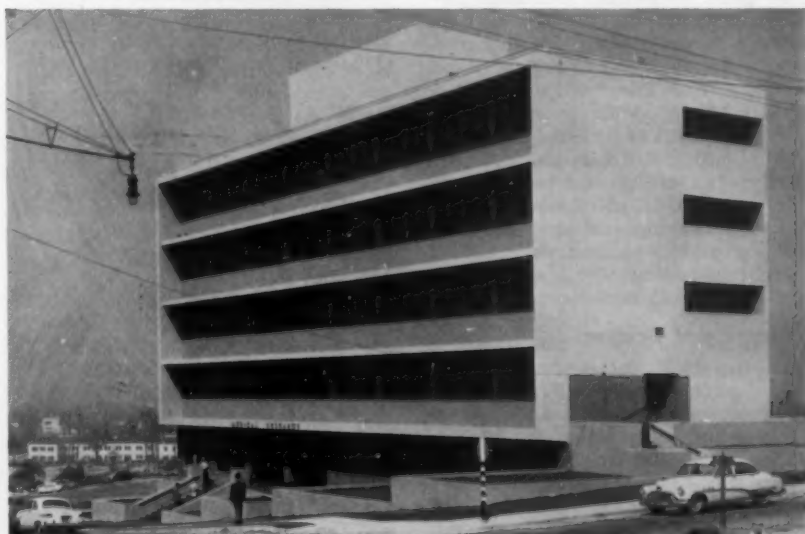
University of Michigan

Applications for appointments as associates for the summer symposium on astrophysics now are being accepted. April 10 will be the deadline for filing application. The symposium, which will be held June 29-July 24, is co-sponsored by the departments of physics and astronomy as a part of the summer session.

The university has set up a long-range development program planned to expand the teaching, research and service resources. The organization, known as the Development Council, will attempt to raise funds for operation of the 15 schools and colleges, and to increase their share in community responsibilities.

University of Minnesota

Dr. DONALD C. BALFOUR, director emeritus of the Mayo Foundation for Medical Education and Research, has been named foreign correspondent for the division of surgery and obstetrics of the National Academy



THE NEW \$1,072,000 medical research building on the University of Southern California campus in Los Angeles. The heart and cancer research structure contains offices, laboratories and animal quarters. It was financed in part by \$685,000 from the Public Health Service.

College Briefs

of Medicine of France in Paris.

Scheduled continuation courses for general physicians include: surgery, May 7-9; arthritis and allergy, May 11-13; radiology, May 21-23; electrocardiography, June 8-12.

State University of N.Y. (Syracuse)

Dr. ALFRED FARAH has been promoted to professor and chairman of the pharmacology department, succeeding Dr. ALLAN D. BASS, who left to head the pharmacology department at Vanderbilt. The promotion of Dr. JAY TEPPERMAN to professor of pharmacology and experimental medicine also has been announced.

State University of N.Y. (N.Y.)

Dr. DAVID NACHMANSOHN, the first research worker to achieve an analysis of chemical reactions during nerve activity, delivered the seventh annual Murray B. Gordon memorial lecture on March 3.

University of North Dakota

A grant of \$11,200 has been received by the department of biochemistry to establish the Guy and Bertha Ireland Laboratories for Cancer Research. The laboratories will be directed by Dr. W. E. CORNATZER and Dr. JOHN P. DAVISON.

A clinical clerkship program for sophomore students is going into effect this spring. Students will be placed in medical centers throughout the state and will take active part in preparing case histories and conducting examinations.

University of Oregon

Dr. DANIEL K. BILLMEYER, resident in pediatrics, became Oregon's first exchange resident when he went to Tulane University early in March. He will study and work there for six weeks while Dr. GEORGE HERRING of Tulane visits the Oregon Medical School. Each doctor will have the opportunity to observe acute and chronic diseases which are rare in his own part of the country.

Portland alumnae of Alpha Phi, social sorority, have contributed a pressure transducer to the store of medical school equipment. The presentation is part of nationwide cardiac aid given by Alpha Phi.

Dr. WILLIAM F. WINDLE, scientific director of Baxter Laboratories, Inc., was on the campus February 21 with a movie showing the use of Piromen in the regeneration of spinal cord tissue in experimental animals. It was Portland's first three-dimensional scientific motion picture.

University of Pennsylvania

More than 40 leading industrial firms and business concerns in the area are participating in the new course in industrial medicine which began last month. The program is sponsored jointly by the Chamber of Commerce and the department of public health and preventive medicine at the school.

University of Rochester

Dr. DONALD G. ANDERSON has been named dean of the school effective with the opening of the 1953-54 academic year. Dr. Anderson presently is secretary of the Council on Medical Education and Hospitals of the American Medical Association, and formerly was dean of Boston University School of Medicine. He succeeds Dean GEORGE HOYT WHIPPLE. Dr. Whipple, who has been dean since the founding of the school in 1920, will continue to serve as professor of pathology.



The discovery of a new enzyme apparently unique in tumor tissue was the basis for award of a \$20,000 grant-in-aid to a medical research team headed by Dr. ELMER H. STOTZ, professor of biochemistry. The grant,

effective July 1, is from the Jane Coffin Childs Memorial Fund for Medical Research.

University of Tennessee

DR. JAMES A. TAYLOR, senior psychiatrist at Kennedy Veterans Hospital, joined the staff March 1. He is assistant professor of psychiatry and neurology and clinical director at the Gailor Psychiatric Hospital.

The postgraduate department offered its first program for midsouth physicians March 11-13. The course in obstetrics and gynecology was the first of a series of courses which will be presented for general practitioners this year.

DR. JAMES D. HARDY, assistant professor of surgery, has received a research grant of \$6,966 from the American Cancer Society. The grant is for further studies in the field of nutrition in relation to the ability of the patient to undergo surgery.

DR. DONALD B. ZILVERSMIT, associate professor of physiology, has been awarded a \$10,584 research grant by the Life Insurance Medical Research Fund. Dr. Zilversmit is investigating the role of phospholipides in the deposition and mobilization of arterial lipides. M. L. SHORE, graduate student, will assist in the investigation.

University of Texas (Galveston)

What is believed to be the first medical student graphic arts exhibit to be held in the United States was arranged during February. Seven students participated in a showing of oil paintings, water colors, pen and ink drawings and lithographs. The exhibit was arranged under the auspices of the Galveston Art League.

DR. WALTER HILD of Hamburg, Germany, a Rockefeller Foundation fellow, is visiting the medical branch to study in the tissue culture laboratory under the direction of Dr. CHARLES M. POMERAT, for investigations on the neurosecretory functions of the anterior pituitary.

University of Utah

The Ford Foundation and the Government of India have requested the services of Dr. JOHN Z. BOWERS, dean of the School of Medicine and vice president of the AAMC, to organize a project in public health training based on recommendations made by Dr. Bowers after his mission to India last summer. He left for India on March 15 for a period of two months.



University of Wisconsin

A postgraduate course, "Advances in Internal Medicine," will be presented April 21-23 under the direction of Dr. OVID O. MEYER, professor of medicine.

Yale University

A grant of \$2,500,000 from the Commonwealth Fund has been received for construction of a residence hall for medical students. It is to be called the Edward S. Harkness Memorial Hall. The building will be erected immediately adjacent to the Sterling Hall of Medicine and the Grace-New Haven Community Hospital. Facilities will include rooms for single and married students, lounge, dining hall, recreation rooms and suites for visiting scientists. Construction will begin in the fall of 1953.

The memorial unit of Grace-New Haven Community Hospital was dedicated February 5. The unit, erected at a cost of approximately \$9 million, includes facilities for 327 patients, a nurses' home, laundry and new dietary facilities for the entire hospital. It increases the bed capacity of the hospital, available for service to the community and instruction of medical students, to 805 beds.

Book Reviews

Pediatrics in General Practice, 1st edition

James G. Hughes, M.D., professor of pediatrics, University of Tennessee College of Medicine, McGraw-Hill Book Company, Inc., New York, Toronto, London, 1952. Illustrated, 735 pp. with index. \$14.

This single-author textbook is designed to answer the needs of the general practitioner. Those needs are urgent, so long as, statistically, the practitioner takes care of three quarters of the nation's children and every third patient is less than 15 years of age.

Dr. Hughes appears to be eminently prepared to cope with such a gigantic task. He has had vast experience in the practice, organization and teaching on all levels of clinical pediatrics, and is also an accomplished writer whose literary product is extremely readable.

To accomplish his task, the author had to select his topics, and he has done so with his practical and technological views in mind, without neglecting the fundamentals of pathologic physiology. The time honored introductory chapters on the full-term and premature newborn and infants' nutrition are followed by chapters on nutritional and gastrointestinal disorders.

The section on etiologic factors in congenital malformations and the chapter on fluid and electrolyte balance deserve special mention. In the following chapters, arranged by organ systems, the topics of kidney and blood malignancies are discussed. Brain tumors, however, are missing under "Nervous System."

In an age where cancer claims so many child victims it would, perhaps, be useful to devote a section to the general consideration of childhood neoplasms. The excellent sections on upper and lower respiratory infections are complemented by chapters on common infectious diseases, immunizations and allergic diseases.

Near the end of the book a special chapter is devoted to the psychologic aspects of childhood, illustrated by brief case reports. It is here that the author's clinical insight, human understanding, ordinary common sense and literary ability combine to achieve an exemplary contribution.

In this selection of topics, what is neglected? In the first place, with regard

to normal growth and development, the practitioner is referred to the leading monographs on the subject, with no thought that he might not have them available. It would be easy to furnish him with some simple tables containing growth data for normal infants and children, printed on the inside covers of the volume. Furthermore, there is no chapter on endocrine disease. Such important subjects as diabetes mellitus and hypothyroidism are dealt with only under electrolyte disbalance and obesity, respectively. Shortness of stature and adolescent problems are barely mentioned.

Such omissions must be balanced against dispensible bulk in other sections. The section on congenital heart disease includes many diagnostic and surgical intricacies of present-day cardiovascular technology and covers 37 pages, more than 5 per cent of the book. Here the practitioner should be referred to specialist publications. Bibliographic references, in general, fill about 43 pages, certainly many more than the practitioner needs or has time to use. Drastic cutting in these two areas mentioned would save approximately 50 pages that could be used to cover the subjects slighted or omitted without increasing the bulk of the book.

Setting aside such reservations, Dr. Hughes is to be congratulated for an outstanding achievement, and his book is to be recommended to the general practitioner as a sure guide.

Rypins' Medical Licensure Examinations, 7th edition

Topical summaries and questions. By **Walter L. Bierring, M.D., F.A.C.P., M.R.C.P.**, Edin. (Hon.), former member National Board of Medical Examiners, American Board of Internal Medicine, with the collaboration of a review panel, J. B. Lippincott Company, Philadelphia, London, Montreal, 1952. 856 pp. with index. \$8.

This volume represents the seventh edition of a well received compendium of medical information for the guidance of candidates for medical licensure.

The organization of the materials under the major headings in the basic sciences and clinical branches consists of a brief and superficial discussion of essential details with appended characteristic questions gleaned from the ex-

perience of many state board examinations over the years. This departure from the earlier question-and-answer pattern of other similar texts is a forward step. Further, the editorial review panel has assured the reader of authoritative guidance. Nevertheless, the very objective of such a volume denies to it the breadth of discussion expected in a modern graduate of medicine.

As implied, the volume is designed to prime the candidate for medical licensure by quick reviews of subjects that may be included in his examination. Obviously, the book cannot be exhaustive; but it is disconcerting to the prospective candidate to find superficial considerations of subjects such as the rickettsial diseases. Naturally such a small volume, inclusive in scope, could not be expected to escape certain oversights. The candidate will be surprised, nevertheless, to find no mention of rickettsialpox. The increasing problem of American Q fever deserves greater attention than the word on page 336. In like manner, many other abbreviated or neglected references might be cited; but in the very order of the text, such varying weight of editorial consideration must be given.

The editor, Dr. Walter L. Bierring, brings to this effort the weight of years of experience in medical licensure examinations. His supporting cast is excellent. The resulting text will find an increasing consumption at the hands of over-anxious candidates. There is no substitute for sound basic and clinical medical education, nor has a single text yet been devised that can replace the laboratory and bedside instruction of the medical schools. If the latter elements are deficient, the candidates will remain poorly equipped, not only for the casual examinations such as are represented by the routine state boards, but also for the comprehensive and other forms of survey of student attainment.

Pathology in Surgery

Edwin F. Hirsch, Ph.D., M.D., director of the Henry Baird Favill Laboratory and pathologist of St. Luke's Hospital, Chicago. The Williams & Wilkins Company, Baltimore, 1952. 388 photographs. 474 pp. with index. \$10.

By the use of photographs, mostly black and white, the author has illustrated the more important lesions of the various systems seen by him in his career as an active surgical pathologist.

Illustrations compose about 70 per cent of the book and are, for the most part, excellent in material presented and photographic technique used.

As admitted in the preface, this book does not represent a text in general or special pathology. It is not detailed enough to serve as a complete textbook for medical students, nor is it sufficiently comprehensive as regards the material covered by text, photographs or bibliographies to be of much use as a reference by pathologists, surgeons or surgical residents. The illustrations might well prove useful as a means of review for those preparing for their board examinations in surgery or in gynecology and obstetrics.

Diseases of Metabolism, 3rd edition

Edited by Garfield G. Duncan, M.D., clinical professor of medicine, Jefferson Medical College. W. B. Saunders Company, Philadelphia & London, 1952. Illustrated. 1179 pp. \$10.

This series of articles by competent authorities in their fields covers both basic physiology and clinical aspects of metabolic disease. Brief but fairly adequate bibliographies are included.

A considerable, but not disturbing overlapping of material occurs in presentations of this type. Many of the articles are condensations of more extensive publications by the various authors, but such a compilation is valuable for medical students and practicing physicians.

A major criticism is the occasional failure to present adequately all aspects of important but still controversial problems in both physiology and clinical practice. None of these deficiencies detract from the importance of the book as a fairly complete text in its field.

Logan Turner's Diseases of the Nose, Throat and Ear, 5th edition

Edited by Douglas Guthrie. Assisted by John P. Stewart. The Williams & Wilkins Company, 1952. 246 illustrations and 9 colored plates. 478 pp. \$8.

(This review is reprinted because of incorrect listing of author and publishing company in a previous issue. The *Journal* regrets this error.)

This is a new edition of a well-known textbook formerly in wide use by medical students. The last edition was published a few years before Logan Turner's death in 1939. Necessarily with the long delay between publications, extensive

Book Reviews

revision was necessary. The whole field of antibiotic therapy, which is of particular importance in otolaryngology, developed in the period between the two editions.

The book has retained its old format. The writing is clear and the presentation of the subject matter indicates that the contributors have seasoned clinical judgment. Presentations of the six contributors have been well balanced and integrated into a good over-all account of the many phases of this specialty.

The illustrations could be improved. A more detailed discussion of the modern physiology of the middle and inner ear and some reference to the nasal plastic approach to combined deformities of the septum and external nasal pyramid would seem to be indicated.

On the whole, this is an excellent book for the medical student and general practitioner.

Practice of Psychiatry

William S. Sadler, M.D., F.A.P.A. The C.V. Mosby Company, St. Louis, 1952. 1188 pp. with index. \$15.

This monograph has had two predecessors, "Theory and Practice of Psychiatry" (1936) and "Modern Psychiatry" (1945), but presumably the present volume is not a revision but a completely new book. It is divided into seven parts dealing with general psychiatric considerations, the pathoses, the neuroses, the psychoses, personality disorders, psychosomatic diseases and general psychotherapeutics. An appendix describing the various schools of psychiatry appears at the end, as do a bibliography, glossary and index.

The book is well outlined, but, in spite of its large number of pages, the material is overly simplified and condensed. There are infrequent specific references to the bibliography, which consists only of books, and many of these have only historical importance. Some of the chapters consist only of expansions of the outlines and classifications.

Dr. Sadler likes to use new terms. For example, he calls the practice of psychiatry, the practice of personology. He says, "This word 'personology' is not in the dictionary, but it should be." His use of the term "pathoses" for the group of "preneurotic attitudes," is only another effort to establish a new diagnostic category. Psychiatry is enough

besieged with complex terminology and classificatory systems at present. What is needed are more integrative and functional presentations, not merely lists of symptoms, outlines and classifications.

The section on personality disorders seeks to differentiate these from the "pathoses" and the neuroses. Actually, personality development is only sketchily covered. The section on psychosomatic diseases consists of only 55 pages and no understanding is expressed of the psychosomatic approach in medicine. Again only lists of diseases, which are briefly discussed, appear. The content of the section on general psychotherapeutics covers everything from weak wills to shock therapy.

Both the index and glossary are complete. Dr. Sadler states that his present work is for general practitioners as well as other specialists and psychiatrists. He says, "The purpose of this book is to serve as a ready and compact reference for diagnosis and immediate treatment." Unfortunately this simplified and catalogue-like approach may serve more to confuse than to illuminate.

What is needed are books on psychiatry that correlate our knowledge of the meaning of illness with the total approach to the patient. This volume can be useful only in a supplementary fashion.

Tuberculosis

Saul Solomon, M.D., associate clinical professor of medicine, New York University Post-Graduate Medical School. Coward-McCann, Inc., New York, 1952. Illustrated with drawings. 310 pp. with index. \$3.50.

Though this book covers the whole field of tuberculosis, the style and content are such that it would not appeal to any one particular group. It is too elementary for use by medical students or nurses; it is too technical to find a wide reading audience among the public. The early chapters do not develop evenly, but are jumbled, with thoughts jumping back and forth from points of historical interest to points of bacteriology, diagnosis and therapy.

The book might find some field of usefulness in sanatorium libraries, where patients could use it to familiarize themselves with their disease. However, patients with a limited educational background would tend to become more confused than enlightened by reading it.

Appraising Personality

Molly Harrower, Ph.D., research director, Court Intake Project, New York City Court of Domestic Relations. W. W. Norton & Company, Inc., New York, 1952. Illustrated. 197 pp. with index. \$4.

The clinical psychologist as a diagnostician and the type of information he is able to furnish the referring physician are well described in this very readable book. The book shows how the psychologist may help the physician understand and know what kind of person the patient is. Understanding the psychological world of the patient can aid the physician in making an accurate diagnosis and in planning treatment.

The omission of the clinical psychologist's role as a therapist and as a research worker from the section, "What does the clinical psychologist do?", may be seen as a gross omission by some psychologists. Also, the book may not succeed in bridging the gap between the particular tests, which are described at some length, and other tests which the clinical psychologist frequently uses. Others may object that the validity of the tests is not questioned.

These points, however, are not of major importance to this text. Their inclusion might have served only to lengthen the volume in such a way as to eliminate the present ease with which it can be read and the excellent description of the type of diagnostic report which the clinical psychologist can give the physician.

The book may be recommended for the general practitioner and for collateral reading for medical students.

Physics and Medicine of the Upper Atmosphere

A study of the aeropause. Proceedings of a symposium held at San Antonio, Texas, November 6-9, 1951, sponsored by the Air University School of Aviation Medicine. Edited by **Charles S. White, M.D.**, director of research, Lovelace Foundation for Medical Education and Research, and **Otis O. Benson Jr.**, brigadier general, USAF (MC), commandant, USAF School of Aviation Medicine. The University of New Mexico Press, Albuquerque, 1952. Illustrated. 611 pp. with index. \$10.

The 40 papers of this book present subjects discussed by the authors at a symposium in San Antonio, Texas, November 6-9. The various topics are concerned with the characteristics of the upper atmosphere and the space beyond and some of the problems of the flight of manned craft in these regions.

Subjects covered fall into such fields as solar physics, astronomy, meteoritics, cosmic ray physics, meteorology, genetics, toxicology, radiobiology, physiology, aviation biology and medicine, human engineering, aeronautical engineering and rocketry. As stated in the preface and introduction, many other pertinent subjects could have been added.

Despite the wide diversity, the meeting provided a remarkable sense of unity most of the time. This has been well carried over into the book. Most of the technical subjects have been written by authorities in their fields. As a result of the diversity of subjects and their technical nature, it is doubtful if any individual will be able to completely understand all the papers. At the same time, anyone acquainted with one of these fields and interested in the general problem can find useful information, including bibliographies.

Since there is relatively little direct information available, discussions of visualized problems and suggested solutions are often on a relatively speculative basis.

Cornell Conferences on Therapy, Vol. 5

Edited by **Doctors Harry Gold** (managing editor), **David F. Barr**, **Frank C. Ferguson Jr.**, **McKeen Cattell**, **Frank Glenn** and **George Reeder**. The Macmillan Company, New York, 1952. 295 pp. \$4.

As were its predecessors, this book is a record of presentations and discussions within a series of conferences held at the New York Hospital and Cornell Medical School. The function of a book such as this in the structure of medical education, as it exists today, is difficult to assess. For use as a textbook its rambling nature, incomplete subject index and lack of bibliography minimize its value. On the other hand, opinions of men so eminent in their fields are worthy of propagation. Popularity of previous volumes has confirmed this.

Subject matter and discussion are directed particularly at the pharmacologic basis of therapy, and this is the declared purpose of the conferences. As a result, however, many intriguing enigmata of etiology and pathogenesis of disease are eliminated in favor of pharmacologic applications.

The discussions, in general, are excellent. Each conference is opened by

JUST PUBLISHED

*for all who are interested in
the current progress of medicine.*



BLAKISTON

the
**MEDICAL
AND SCIENCE
PUBLISHERS**

1953 MEDICAL PROGRESS

Written by 25 of today's most distinguished men in medicine

Edited by

MORRIS FISHBEIN, M.D.



Here, in one, handsome volume are gathered together the newest techniques, the vast clinical and research experiences, of such noted specialists as Dr. Paul Dudley White, Dr. Charles W. Mayo, Dr. Frederick W. Stare, Dr. Perrin H. Long and Drs. Irvine H. Page and A. C. Corcoran.

Here, in "1953 Medical Progress," for your daily use and reference, is a

remarkable record of the past year's medical findings written by twenty-five men who have won the highest recognition in their various medical fields. Surely you will want to own this book which offers you such a wealth of new and authoritative information on cardiology, uses of the new drugs, allergies, rheumatic diseases, hypertension, surgery, infectious diseases, respiratory diseases, obstetrics, urology and gastro-intestinal disorders. 400 pages

\$5.00

ORDER HERE

THE BLAKISTON COMPANY

575 Madison Avenue
New York 22, New York

105 Bond Street
Toronto 2, Canada

Please send me on a 10-day trial basis.....copies of

Fishbein's 1953 MEDICAL PROGRESS.....\$5.00

You **SAVE** Postage by sending Check or Money Order

---Check or M.O. Enclosed
(Postage Prepaid)

---Charge
(Plus Postage)

---Send C.O.D.
(Plus Postage)

Name.....

Address.....

City.....

Zone.....

State.....

J.M.E. 4-53

an authority on the subject and discussion follows. The latter is thorough to the point of redundancy. Many opinions are given, but few references are cited. This is understandable in conference, yet it is something which could have been added with profit before publication.

Dental Anatomy, 3rd edition

Including anatomy of the head and neck. **Moses Diamond**, D.D.S., late professor of dental anatomy, Columbia University College of Physicians and Surgeons and School of Dental and Oral Surgery. The Macmillan Company, New York, 1952. Illustrated. 471 pp. with index. \$15.

Since Dr. G. V. Black made his contribution to the subject of dental anatomy, no one, to the knowledge of the reviewer, has made a more diligent effort to enlighten the profession on the topic than has Dr. Diamond. That his book has gone to its third edition is evidence of its intrinsic value. The present volume is a praiseworthy addition to the subject.

The author has added a chapter on comparative dental morphology which is extremely valuable. His chapter on the temporomandibular joint portrays a better understanding of the anatomy and function of this articulation. A separate chapter has been incorporated on the growth and development of the skull, which is invaluable in the consideration of the subject of dental anatomy. A satisfactory glossary is appended to the volume as well as a supplemented bibliography. These should prove of great convenience and service. In its revised form, this book will be found of inestimable value, not only to students as a text, but to general practitioners in their daily use.

As stated in the acknowledgement of the text, the manuscript for the third edition of "Dental Anatomy" was in a stage of virtual completion at the time of Dr. Diamond's death. Through the insistence and help of his colleagues at

the university and his many friends in the profession, Dr. Diamond's son has made the publication of this third edition available.

National Health Insurance and Alternative Plans for Financing Health

Seymour E. Harris, professor of economics, Harvard. League for Industrial Democracy, 112 E. 19th St., New York 3, 1953. 39 pp. 25 cents.

The author of this booklet sees national health insurance as a natural next step, following the pattern begun with public schools, workmen's compensation, aid to dependent children and other social services. He makes clear the distinction between national health insurance and socialized medicine. A national system of health insurance, he believes, would cut costs by encouraging preventive medicine and early diagnosis. It also would contribute toward a better distribution of personnel engaged in health services, help in the development of needed personnel, education and research, adapt payments to ability to pay and provide financial stability. He deals with the need for more physicians and medical schools. The pamphlet includes a summary of the report of the President's Commission on the Health Needs of the Nation prepared by the Commission for the Nation's Health.

Letters to a Doctor's Secretary

Anna Davis Hunt, Medical Economics, Inc., 1952. 75 pp.

This little booklet consists of a series of 16 letters written by a doctor's former secretary to her successor. They were first printed in *Medical Economics* some years ago and were reprinted in a revised and up-to-date version in 1951. They are well written and helpful for the doctor's secretarial assistant, or for the practitioner who may be vague about just what to expect from his office assistant.

ADV.

ADV.

HAVE YOU BOOK MSS. READY FOR PUBLICATION?

We will help finance publication handsome edition and distribute to world market, worthy serious material. Monarch Editions, 220 West 42nd St., N. Y. 36, N. Y.

Books and Pamphlets Received

(As space permits, those with the greatest interest to our readers will be reviewed)

A Manual of Clinical Allergy

John M. Sheldon, M.D., professor of internal medicine; Robert G. Lovell, M.D., instructor in internal medicine; Kenneth P. Mathews, M.D., assistant professor of internal medicine (all of University of Michigan Medical School). W. B. Saunders Company, Philadelphia, 1953. Illustrated. 413 pp. with index. \$5.50.

Qualitative Analysis and Analytical Chemical Separations

Philip W. West, Ph.D., professor of chemistry; Maurice M. Vick, Ph.D., associate professor of chemistry; Arthur L. Le-Rosen, Ph.D., late associate professor of chemistry (all of Louisiana State University). The Macmillan Company, New York, 1953. 223 pp. with index. \$3.75.

The Anatomy of the Nervous System, 9th edition

Stephen Walter Ranson, M.D., Ph.D., late professor of neurology and director of Neurological Institute, Northwestern University Medical School. Revised by Sam Lillard Clark, M.D., Ph.D., professor of anatomy. The Vanderbilt University School of Medicine. W. B. Saunders Company, Philadelphia, 1953. 434 illustrations. 551 pp. with index. \$8.50.

Elementary Statistics with Applications in Medicine

Frederick E. Croxton, Ph.D., professor of statistics, Columbia University. Prentice-Hall, Inc., New York, 1953. 376 pp. with index. \$7.50.

A Study in Manic-Depressive Psychosis

Acta Psychiatrica et Neurologica Scandinavica, Supplementum 79. By Ake Stenstedt. Ejnar Munksgaard, Copenhagen, 1952. 111 pp.

The Official Preparations of Pharmacy, 2nd edition

Charles Oren Lee, Ph.D., professor of pharmacy, Purdue University School of Pharmacy. The C. V. Mosby Company, St. Louis, 1953. Illustrated. 544 pp. with index. \$5.50.

Gifford's Textbook of Ophthalmology, 5th edition

Francis Heed Adler, M.D., professor of ophthalmology, University of Pennsylvania Medical School. W. B. Saunders Company, Philadelphia, 1953. Illustrated with 281 figures and 26 color plates. 488 pp. \$7.50.

Medical Progress, 1953

A review of medical advances during 1952. Morris Fishbein, M.D., editor. The Blakiston Company, New York, 1953. 301 pp. with index. \$5.

Liver Injury

Transactions of the 11th conference, April 30-May 1, 1952. Edited by F. W. Hoffbauer, M.D., associate professor, department of

medicine, University of Minnesota Hospitals. Josiah Macy Jr. Foundation, New York, 1952. Illustrated. 265 pp. \$4.

Treatment of Mental Disorder

Leo Alexander, M.D., director, the neurobiological unit, division of psychiatric research, Boston State Hospital. W. B. Saunders Company, Philadelphia, 1953. Illustrated. 507 pp. with index. \$10.

Diagnosis of Congenital Cardiac Defects in General Practice. Regina Gluck, M.D., assistant clinical professor of pediatrics, Children's Medical Service, Bellevue Hospital. American Heart Association, 44 E. 23rd St., New York 10, 1953. 18 pp.

The Preparation and Writing of Medical Papers for Publication. W. R. Bett, M.R.C.S., L.R.C.P., F.R.S.L. Menley & James, Ltd., London, 1953. 23 pp.

Thirteenth Semiannual Report of the Atomic Energy Commission. United States Government Printing Office, Washington, D.C., February 1953. 210 pp.

Poliomyelitis Research: Four Eras of Progress. Harry M. Weaver, director of research, National Foundation for Infantile Paralysis. 22 pp.

BCG Vaccination. Studies by the WHO Tuberculosis Research Office, Copenhagen. Report prepared by Lydia B. Edwards, M.D., chief of field studies; Carroll E. Palmer, M.D., Ph.D., director, assisted by Knut Magnus, assistant statistician. World Health Organization, Palais des Nations, Geneva, 1953. May be obtained from the International Documents Service, Columbia University Press, New York 27. 307 pp.

Together We Are Strong. Publication 4614, Group Relations Branch, Division of Public Liaison, Department of State, Washington, 25, D.C. 40 pp. Available free in limited quantities.

Survey of Federal Medical Services. American Medical Association, 535 N. Dearborn St., Chicago 10. December 1952. 97 pp.

Salaries of Local Public Health Workers. April 1952. Public Health Service Publication No. 237. 83 pp.

Salaries of State Public Health Workers. August 1952. Public Health Service Publication No. 260. 52 pp.

The Function of the Public Schools in Dealing with Religion. A report on the exploratory study made by the Committee on Religion and Education. American Council on Education, Washington, D.C., 1953. 145 pp. \$2.

The Intimate Life. Norval Geldenhuis, B.A., B.D., Th.M., former Elsie Ballot Scholar to Cambridge, England, and Princeton, U.S.A. 96 pp. \$2.75.

It's Your Hospital and Your Life. Public Affairs Pamphlet No. 187. Lucy Freeman. 32 pp. 25 cents.

National Research Council, Division of Medical Sciences. Annual Report, 1951-52. 2101 Constitution Ave., Washington 25, D.C., 87 pp.

Distribution of Health Services in the Structure of State Government, 1950, Part 2. Federal Security Agency. 117 pp.

When Peoples Speak to Peoples. An action guide to international cultural relations for American organizations, institutions and individuals. Harold E. Snyder. American Council on Education, Washington, D.C., 1953. 206 pp. with index. \$3.

Abstracts and Excerpts

Lindsay, Ray H., **The Preceptor Plan**, "Journal of the Oklahoma State Medical Association," August 1952: 283-284.

One of the doctors participating in the preceptorship plan at the University of Oklahoma discusses the value he believes students receive from the project. Professors in modern medical schools are not close enough to the student and this sense of closeness is generated in the preceptorship plan. Working with a preceptor can teach the student that hard work is his duty and obligation to the sick, that study is the foundation of progress in human medicine, and that humility is an essential quality of any good doctor.

"British Medical Journal," **The Technique of Medical Teaching**, No. 4803: 213-214, January 24, 1953.

A conference-course in the technique of medical teaching, held at the Post-graduate Medical School, Hammersmith Hospital, London, offers some criticisms of the formal lecture and advocates using group discussions instead. The crowded medical curriculum should allow more individual flexibility. It would be possible to hold examinations in pre-clinical subjects at two levels, one requiring general and the other more advanced knowledge. Every student should take all the examinations at the general level and one of his choice at the higher level. Conference leaders advocated less didactic work in the last years of medical school, stressing that the aim of the educator should be to encourage mental independence. The use of libraries and museums in teaching is urged.

Starry, L. J., **The Training of a Surgeon**, "The American Surgeon," Vol. XVIII, No. 4: 343-351, April 1952.

The author surveys critically the training of surgeons, analyzing the innate qualities a potential surgeon should possess, what sort of a physician training should produce, the means being used to develop the "ideal" surgeon and what results actually are being obtained. Surgical training should not be treated as an isolated unit, but should be correlated with the basic sciences. The young doctor should be required to spend a few years in general practice before completing his surgery training to help relieve the increasing shortage

of doctors and to fit himself better for specialty training. Bedside diagnosis is fast becoming a lost art and laboratory tests are being relied on too much to tell the whole story. Dr. Starry does not favor the creation of great surgical associations, feeling they have a tendency to destroy individuality and freedom of action of the surgeon. The aim should be always to train students to be "surgeons with a conscience."

"Journal of Higher Education," **A New Strategy for University Public Relations**, March 1953: 149-151.

Most college public relations men are not trained for the special job they have to do and spend too much time passing out squibs and news releases for local papers. These things are important, but more constructive functions of the public relations officer are to seek broad national information channels for special scholarly articles and programs, to help develop a special editing service to enhance the university's and faculty's contributions to the literature, and to aid scholars in obtaining research grants.

Wilson, Willard, **Physician, Heal Thyself**, "American Association of University Professors Bulletin," Vol. 38, No. 2:287-295, summer 1952.

The author urges individual improvement in college teaching, with a moral rather than a technical approach to the problem. Teachers must awaken themselves and their graduate students to the need for a renaissance of deep respect for the seriousness of teaching. He warns against overmethodizing teaching with the danger of producing a "mass mediocrity." He lists the following "Axioms for a Teacher:"

1. Honesty with himself, about himself.
2. Absolute and religious sincerity in his desire to teach, to the best of his ability, the subject entrusted to him.
3. Objective and deliberate development of the style best suited to his talents and his subject.
4. Constant and conscious enlargement of the area and depth of subject matter knowledge within his field.
5. Intelligent awareness and appreciation of the enlarging borders of contiguous fields of thought.

Abstracts and Excerpts

6. Creative effort of some sort exerted in some form outside the classroom, and preferably also in some field outside that of his specialty.

Elkin, Daniel C., *A Case for the Study of the Humanities in the Making of a Doctor*, "Annals of Surgery," Vol. 136, No. 3: 337-344, September 1952.

The author deplores the poverty of the humanities in the premedical education of most students. He believes medical schools are directly to blame for this by their obvious preference for students who have spent much of their early college years taking scientific subjects. Dr. Elkin also says, "If a physician has a diminished insight into himself, it is reflected in an equally diminished insight into the problems of his patients, and there remains undeveloped in him that aspect of the profession which is the means by which its scientific knowledge is translated into benefit for the patient." The well-rounded man makes the better physician, and the forthcoming survey of preprofessional education can be employed to make specific recommendations concerning the place of humanities in the curriculum.

Fromm, E. P., *Postgraduate Education Via Wire Recorder*, "GP," October 1952: 119-120.

The education committee of the Southwestern Ohio Society of General Physicians has compiled a library of more than 300 wire recordings dealing with therapy on various subjects. Recordings are mailed out to interested physicians for an extremely nominal sum so that they may continue postgraduate education at their convenience. The wire recorder technique was selected because recording is simple, duplication is easily accomplished, the spools of wire are easily shipped and little storage space is needed. It is hoped that eventually the Commission on Education of the American Academy of General Practice may give credit toward postgraduate requirements to borrow-

ers from this library. A catalog listing subjects recorded may be obtained by writing to the society library, c/o E. P. Fromm, M.D., 286 W. McMicken Ave., Cincinnati 14, Ohio.

Tait, Sinclair, *The Teaching of Psychiatry: Its Place in the Undergraduate Curriculum*, "The West Virginia Medical Journal," September 1952: 256-261.

Dr. Tait believes psychiatry properly belongs in all parts of the medical curriculum. "All physicians must be psychiatrists, not specialists in psychiatry, but sufficiently acquainted with the basic emotional life of patients to recognize and deal with disturbances and difficulties in this aspect of human nature." He suggests the following schedule for the medical school:

First year—one hour a week—didactic.

Second year—one hour a week—history taking, interview technic and examination of patients.

Third year—increased weekly time devoted to clinical ward work with patients and ward teaching.

Fourth year—case assignment to students, under supervision, seminar groups and clinical demonstrations.

Bibliography

- Coleman, Claude C., *Some Observations on the Practice of Medicine*, "The Journal of Southern Medicine and Surgery," Vol. CIII, No. 7:163-167, July 1952.
- Johnson, Joseph L., *Opportunities for Negroes in Undergraduate Medical Education in 1952*, "Journal of the National Medical Association," Vol. 44, No. 5:353-355, September 1952.
- Magnuson, Paul B., *Mental Processes of the President's Health Commission*, "Medical Annals of the District of Columbia," Vol. XXI, No. 12:651-655, December 1952.
- Meyers, E. S., *Medical Education in the University of Queensland*, "The Medical Journal of Australia," November 15, 1952: 698.
- Miller, Albert, *Medical Entomology and its Place in Medical Education*, "The Bulletin of the Tulane Medical Faculty," Vol. 12, No. 2: 57-61, February 1953.
- Simmons, James Stevens, *Medicine of the Future*, "Rhode Island Medical Journal," Vol. XXV: 361-367, July 1952.
- Swan, Henry, *In Defense of Medicine as a Profession*, "Harvard Medical Alumni Bulletin," Vol. 27, No. 2:11-14, January 1953.

This month the Journal of MEDICAL EDUCATION begins a new service to its readers with the establishment of an Abstracts and Excerpts section. The department regularly will summarize and list pertinent articles which have been published in many of the international, national, state and local publications.

Audiovisual News

Motion Picture Research Summarized

Instructional film research between 1918-1950 is summarized in a technical report of the Special Devices Center, Department of the Navy.* More than 200 research studies published or reported in English were examined with critical regard to experimental design and reliability, and the majority of them have been summarized in the report.

Many of the studies were made by individuals who were masters' and doctoral candidates. Major studies have been supported by the Commonwealth Fund, Eastman Kodak Company, Yale University, the Carnegie Foundation, the Payne Fund, the American Council on Education, the Commission on Human Relations Studies, the United States Army, the United States Navy, and the United States Air Force. While the authors of the report were impressed with the lack of discrimination in much of the research, they conclude that "progress has been made in determining the general effects of the medium and some of the factors which appear to determine this result." (p. 1-3.)

It is interesting that the findings of the first major investigation in the United States were, on the whole, in agreement with the data reported in subsequent research on film influence. The study was undertaken in 1919 by the Psychological Laboratory of Johns Hopkins University on a grant of \$6,600 made by the United States Interdepartmental Social Hygiene Board. Its purpose was to assist the laboratory in "investigating the informational and educative effect

upon the public of certain motion pictures used in various campaigns for the control, repression and elimination of venereal diseases."

The film selected for study, "Fit to Win," was dramatic in treatment and contained factual information on venereal diseases. The procedures included pretesting, post-testing, questionnaires and limited interviews made from six to 18 months after the film showing.

Briefly, the film was found to be effective in carrying information, but no effects on inhibition of exposure to venereal disease were found to follow the showing. These results are consistent with findings in subsequent research; that is, "That motion pictures are most effective as an instrument for the widespread dissemination of information" but that there is "little evidence that a single motion picture is effective in restructuring conduct or primal desires, or that the information presented in a film will, because it is presented in a film, inhibit or modify behavior immediately or later on." (Sec. 2-p. 2.)

After reviewing the 200 research studies, the most significant conclusion of the authors is that "there is nothing in a motion picture, *per se*, that guarantees better learning," but, and this may seem commonplace, as the authors admit, "when effective and appropriate films are properly used, people learn more in less time and are better able to retain what they have learned" (p. 9-1).

If the effectiveness of motion pictures is to be increased, improvement must be made by all involved. Producers must plan, produce and distribute for instruction, and instructors must plan with reference to the use of motion pictures in instruction.

Bill To Lower AV Postal Rates

Mrs. Katherine St. George (N.Y.)

*Hoban, Charles F., Jr. and van Ormer, Edward B., *Instructional Film Research (Rapid Mass Learning) 1918-1950*. Technical Report No. SDC 268-1-19, the Instructional Film Research Program, Special Devices Center, Port Washington, L.I., New York, 1951.

introduced bill H.R. 1939 into the House Committee on Post Office and Civil Service on January 16. The bill is designed to give educational 16 mm. films, 35 mm. filmstrips, micro-film, slide sets, sound recordings and catalogs of such materials the same preferred postal rates that now are given to books. A similar bill will be introduced into the Senate and plans are being made to marshal the necessary support to see the bill into law.

At the time the special rate for books was established in 1938, the distribution of educational films and other audiovisual materials was of minor importance. Since that time these materials have become so important in education that educators feel that their dissemination should receive the same federal consideration as educational books. In some instances this means that AV materials could be mailed for as little as one-third of the present postal rates.

The future savings to medical groups, calls for whatever support medical educators are able to give.

AV Educators Meet

The Department of Audio-Visual Instruction of the National Education Association was host to its members at a convention in St. Louis the week of February 23-28. A registration of 715, which eclipsed any previous convention registration, indicates the growing importance of audiovisual materials in the minds of curriculum planners in all education.

Although membership in the department is drawn from specialty groups to a limited extent only, the results of DAVI efforts rapidly become the property of all audiovisual workers. DAVI carries on continuing studies of such practical problems as buildings, equipment, educational TV and AV administration; DAVI studies apply as much perhaps to the medical colleges as to other educational institutions.

The question arises as to what ex-

tent medical educators should be contributing to and learning from the growing fund of knowledge in communication and the ancillary physical problems of handling AV materials. A medical AV association may be premature. But there would appear to be room already for a scientific AV association working on the specific problems of specialty groups and joining with general educators in their common meetings.

Projectionist Training Films

Three films on the care of films and the operation of 16 mm. projectors are now available. Medical colleges which use student projectionists or are planning for the use of student projectionists for classroom showings may find one or all of these films valuable.

These films frequently are available free or for a small service charge from some local source, usually the university film library. If they are not available locally, they may be ordered by title from the International Film Bureau, 57 E. Jackson Blvd., Chicago, at the following rates:

"Facts about Film," 16 mm., sd., 11 min., rental: \$2.50: Shows the projectionist how to guard against the most common kinds of film damage.

"Facts about Projection," 16 mm., sd., 11 min., rental: \$2: Explains that a projectionist must run over a check-list of necessary precautions in advance of the scheduled showing in order to insure an unobtrusive and efficient performance.

"Operation and Care of the Bell & Howell Sound Projector," 16 mm., sd., 21 min., rental: \$3.75: Shows in detail how to thread, operate and maintain Bell & Howell projectors.

Multiplex Radio Transmission

Dr. Edwin H. Armstrong of Columbia University has announced the perfection of a radio transmission system that enables an FM broad-

casting station to transmit simultaneously two or more different programs. Independent programs may be transmitted or a single program may be transmitted stereophonically for binaural reception.

Present FM transmitters and receivers may be equipped to handle the additional channels without increasing the cost unduly.

Summaries of Film Reviews

These brief film reviews are intended to provide a concentrated summary of points of content, appraisal and utilization as an evaluative guide for medical teachers. Each review is the distillate of evaluation from expert panels working with the Medical Audio-Visual Institute staff. Most of the material is drawn from the long, detailed Institute reviews published elsewhere.

Histology and Dynamics of Capillaries and Arteries

Filmstrip, b.&w., si., with printed narration, 60 frames.

Beginning with the endothelial cell as the basic structural unit of the capillary, the component muscular, elastic and connective tissue elements of smaller arteries are successively added. To demonstrate the structure of larger arteries, intima, media, adventitia, elastic membranes and vasa vasorum are successively added. The behavior of vascular regulatory mechanisms for control of vessel calibre and vascular shunts is demonstrated, operating under the principle of stretch and recoil.

The content of this filmstrip is fundamental, well accepted, precisely and simply presented. Somewhat unusual emphasis is placed on the elastic membranes and the related smooth muscles.* Organization of content is orderly and logical; drawings, photomicrographs (some retouched) and x-rays are simply and lucidly conceived and rendered. Color would have produced a gain in impact, a higher price in the cost of prints.

For the student of anatomy, the filmstrip will develop important concepts of three dimensional structure and function in capillaries and arteries. The sec-

tion on dynamics will help in clarifying the principles of vascular function; but such content can only be a prelude to motion pictures and laboratory demonstration. Such a filmstrip ideally should be presented with the instructor's own words. Or the strip can be cut apart and made into a slide series, to be enriched by the individual anatomist's own 35 mm. slides.—S.A.F. and D.S.R., 1953.

Reference: *Benninghof, A. "Über die Beziehungen zwischen elastischen Gerüst und glatter Musculatur in der Arterienwand und ihr Funktionelle und Bedeutung." *Zeitschr. f. Zellf. u. Mikr. Anat.* 6:348, 1927.

Audience: Students of histology in college or medical school.

Author-Producer: Hans Elias, Ph.D., Chicago Medical College, 1948; Revised 1950; Assistant Illustrator: Virginia Cordrey; Injection of Vasa Vasorum: Nelson Brown; Angiocardiographic x-rays: James V. Warren, M.D., and H. S. Weens, M.D., Emory University; Scientific Adviser: Norman L. Hoerr, M.D., Elliot N. Clark, Ph.D., Aldo A. Luisada, M.D., James V. Warren, M.D., and Benjamin W. Zweifach, Ph.D.

Distribution: Hans Elias, Ph.D., department of anatomy, Chicago Medical School, 710 S. Wolcott St., Chicago 12, Ill.; Sale: \$6.

Yaws

16 mm., color, sd., 14 min.

An introduction presents yaws distribution, the environment of unsanitary tropical rural poverty, and the probable roles of trauma and flies in the non-venereal transmission of the disease. A range of clinical yaws lesions is demonstrated in developmental stages: primary pustules, destructive early and late secondary lesions, tertiary manifestations, and the effects of cicatrization. Reported on film are high points of the experiments in mass penicillin treatment carried out by the joint Yaws Commission of the Office of Inter-American Affairs and the U. S. Army in Haiti in 1944.

The clinical documentation of yaws is revealing, dramatic, fundamental. The Haitian penicillin experiment is historic, but its data are somewhat obsolescent in light of newer developments in antibiotic therapy. The film is an assembly of footage shot in the field, is logically organized to present an overview of the disease, and the whole is held together by a narration. There are many production rough spots and many filler shots, as is common with films of similar field origin, but the

Summaries of Film Reviews

material is of satisfactory average quality for its purpose.

Yaws is so dramatic, disfiguring and exotic that this orientational film which presents so much tragic human case material in its Haitian setting cannot fail to convey to students the important clinical and public health essentials of the disease. Fortunately for current utilization, the terminal film report segment with its obsolete material on penicillin can readily be omitted if this is desirable. Likewise, the vital section which demonstrates the range of clinical yaws manifestations readily can be used independently.—D.S.R., 1950.

Audience: Medical students, public health workers; nurses in regions where yaws is endemic.

Producers: U. S. Army, Washington, D.C., 1944-1946.

Distribution: Address loan requests, with code number PMF 5049, to Commanding General, Attention: Surgeon, Headquarters First to Sixth Army (according to location of user); or address requests with code number to Medical Illustration Service, Armed Forces Institute of Pathology, 7th Street and Independence Avenue, S.W., Washington 25, D.C.

Cholera Can Be Conquered

16 mm., b.&w., sd., 12 min. (*Medicine in Action Series No. 2.*)

An introduction presents the setting for the transmission of enteric disease in teeming India, with its flies, uncontrolled sewage and contaminated water. Navy epidemiology team 50 is shown coping with the 1945 cholera epidemic in Calcutta. The culture diagnosis of cholera is demonstrated, along with serological strain identification. Acutely ill cholera patients illustrate the classic signs of the disease. Therapy is pictured, from archaic coconut milk to modern infusions, sulfonamides, antibiotics and plasma. High points of control methods are touched upon.

The clinical cases of cholera are unforgettablely forceful as shown in their settings of underdeveloped India. This fact more than compensates for the substandard clinical performances seen, the scientific and sociological superficiality characteristic of the "Medicine in Action" film series, and the unsound and obsolete data on therapy. This is a film report, composed of edited field footage with a narrational continuity, which seeks to mix a newsreel approach with serious medical pedagogy. Martial mu-

sic, somewhat pompous officers and a supercilious inaccurate narration tend to be distracting.

Epidemic cholera is still one of the great plagues, and the moribund desiccated Indian patients clearly tell their frightening story of hasty death. The remainder of the medical material is so superficial as to be stimulatory only. However, for students and sub-professional audiences the impression of cholera the disease will be forceful and will minimize the film's deficiencies.—D.S.R., 1951.

Reference: Amberson, J. M., "Report on Cholera Studies in India." *Naval Medical Bulletin*, December 1945.

Audience: Students of medicine, public health and bacteriology; nurses; auxiliary medical personnel.

Producers: U. S. Navy, Washington, D.C., 1945-46.

Distribution: Address loan requests, with code number MN-3726k, to Audio-Visual Training Section, Bureau of Medicine and Surgery, Navy Department, Washington 25, D.C.

Plague Control

16 mm., color, sd., 25 min.

An introduction stresses the ingredients of plague transmission: humans, rats, fleas, pasteurellae and death. Clinical cases of severe bubonic plague are demonstrated. Clinical and laboratory diagnosis, protection of personnel against infection, and world distribution are indicated. Rat control methods and flea destruction are demonstrated, along with many details of anti-plague action photographed at the time of an epidemic.

This orientational film's omnibus purpose and contents, a visual textbook chapter in its approach, is supported by its valuable clinical and epidemiological material but injured by the obsolescence of methods and materials of plague treatment, and of rat and flea control. Although the film was shot purposively in large part, the narration provides the continuity of message. There is much fragmentation of the pictorial story, with many dissociations of voice and screen. The film's general impact is one of an overcrowded and piecemeal production, but containing most dramatic raw materials.

The enormous impact upon students of this film documentation of the Dakar bubonic plague epidemic of 1944, with its profound audience psychology of

"the black death," cannot be underrated. Despite its unsatisfactory film structure and elements of obsolescence, the film can be relied upon to transmit the essential facts of bubonic plague to all proper audiences.—R.T. and D.S.R., 1951.

Audience: Medical students, public health workers, students of medical entomology and advanced bacteriology.

Producers: U. S. Navy, Washington, D.C., in collaboration with Pathecope Co. of America, Inc., New York, N. Y., 1945.

Distribution: Castle Films, 1445 Park Ave., New York 29, N. Y., Sale: \$96.19; Address loan requests, with Code No. MN-4049, to Audio-Visual Training Section, Bureau of Medicine and Surgery, U. S. Navy Department, Washington 25, D. C.; available through Motion Picture Library, American Medical Association, 535 N. Dearborn St., Chicago 10, Ill. Service charge: \$2.

Breakbone Fever—Dengue

16 mm., color, sd., 11 min. (Medicine in Action Series No. 3.)

The Pacific island setting for a dengue outbreak among military personnel is shown. Aedes mosquito biting and description of transmission precedes demonstration of symptoms, fever charts with typical hump-backed curves, and palliative treatment. Mosquito control measures applicable to Aedes are demonstrated: destruction of breeding areas, of larvae and adult mosquitoes.

The film presents the simple facts of dengue in a South Pacific military environment. The medical aspects are superficial, for the film touches only high spots and adequately serves orientational and motivational purposes for sub-professionals. Mosquito control measures have been somewhat outgrown at this time. The over-all presentation is of good quality for this film series; the film is logical in organization, consistent in its purpose and development and has only the martial music, some minor photographic weaknesses and a poor shot of the characteristic rash to detract.

For presentation of the essentials of the disease dengue, the film well conveys its message to students. Missing medical or public health details are

readily added to the film's basic framework of fact by the instructor.—R.T. and D.S.R., 1950.

Audience: Medical students, nurses, public health workers.

Producer: U. S. Navy, Washington, D.C., 1944.

Distribution: United World Films, 1445 Park Ave., New York 29, N. Y., Sale: \$38.57. Address loan requests, with code number MN-3726C, to Audio-Visual Training Section, Bureau of Medicine and Surgery, Navy Department, Washington 25, D.C.

Chest

16 mm., color, si., 8 min. (Physical Diagnosis Series, Reel 11).

The film demonstrates the visible signs of four aortic aneurysms of varied position and manifestation (ostensibly syphilitic in etiology), and one coarctation of the aorta with pulsatile intercostal artery, and diagnostic x-ray.

This case atlas film is characteristic of the series, and consists of five aneurysms and coarctation cases in which some care has been taken to present visible chest signs to best advantage. Inept titling, including the main title, is a conspicuous deficiency. The addition of sound would be an important gain.

Since no interpretation of underlying pathology is undertaken, the film's simple yet effective presentation of a type of case material which is becoming increasingly rare lends itself to introductory physical diagnosis for students, and to review for practitioners. Integrated instructional use in syphilology is a useful possibility for the first portion of the film.—1951.

Audience: Students of medicine and nursing, interns, residents and medical practitioners.

Authors and Producers: Gordon B. Myers, M.D., Fred J. Margolis, M.D., and Muir Clapper, M.D., Detroit, Mich., circa 1936-42, revised 1945.

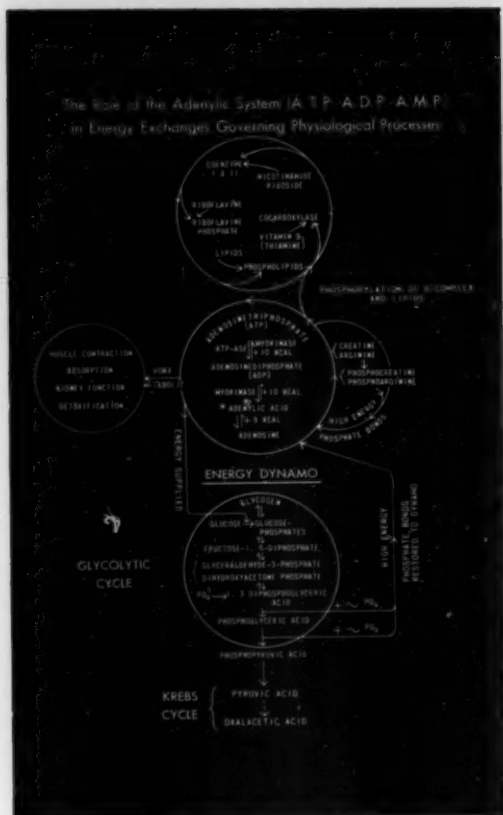
Distribution: For purchase apply to Gordon B. Myers, M.D., Wayne University College of Medicine, Detroit, Mich.; for loan apply to Motion Picture Library, American Medical Association, 535 N. Dearborn St., Chicago 10, Ill., Service charge: \$1.

IRONYL

THE IRON SALT OF YEAST ADENYLIC ACID (Adenosine-3-Monophosphate)

The adenylic system is an essential factor in regulating carbohydrate metabolism and energy release in muscle and in the phosphorylation of thiamin to the biologically active coenzyme cocarboxylase.

Adenosine - 3 - monophosphate remains in the blood stream in the free state without being deaminated, acting as a constant reservoir of adenosine for the build up of A. T. P.



IRONYL® has proven useful in supplying muscle energy in diseases associated with spasm and insufficient relaxation of striated muscles such as arthritis, lumbago, sacro-iliac and in fatigue and exhaustion. It may be mixed in the same ampul with injectable B complex for increasing the effectiveness of B complex therapy.

Each 1 cc ampul of IRONYL® contains 32.4 mg. of Iron Adenylate (4.4 mg. of available iron and 28 mg. of Adenosine-3-Monophosphate).

Available for the Clinical Investigator: Procanyl (Procaine Adenylate). Each 1 cc ampul contains the equivalent of 20 mg. of procaine base (2%) and 30 mg. of adenosine-3-monophosphate.

PHYSIOLOGICAL CHEMICALS CO. INC.
3 LE FEVRE LANE
NEW ROCHELLE, NEW YORK

Reprints and Literature available on Request

IRONYL supplied in one cc ampuls in boxes of 10, 25 and 100.



The Personnel Exchange

Faculty Vacancies

• **ASSISTANT LIBRARIAN** for a large, well organized library serving a midwest college of medicine and school of nursing. Excellent opportunity for reference, circulation and technical processes experience. Academic rank. Salaries above A.L.A. standard. Requires a degree in library science. Address: V-6.

• Applications are invited for the post of assistant or associate professor of **BIOCHEMISTRY** at the University of Alberta, duties to commence July 1, 1953. Further information may be obtained from Dr. J. W. Scott, dean of medicine, University of Alberta, Edmonton, Canada.

• A one-year salaried training position will be available in the consultation clinic for **EPILEPSY**, University of Illinois College of Medicine, beginning July 1, 1953. Address application or requests for further information to: Dr. Frederic A. Gibbs, 912 S. Wood St., Chicago 12.

• **PHYSIOLOGIST**, Ph.D. or M.D. Desired for permanent position in physiology department. Preference given to those with interest in cardiovascular or neurophysiology. Teaching program of 16 weeks duration; remainder of year available for research. Further information may be obtained from: Dr. Harold C. Wiggers, professor of physiology of the College of Medicine, Albany Medical College, Union University, Albany, N. Y.

• The department of **MICROBIOLOGY** and **IMMUNOLOGY** of a medical school in the midwest is scheduled to move into new and enlarged quarters toward the end of 1953. The staff is to be increased by two full-time members. Those interested and experienced in teaching medical students are requested to give information concerning their personal history and qualifications and the desired rank and salary. Address: V-7.

• **ASSISTANT DEAN**, M.D. Desired for position in eastern medical school with appointment in department of medicine. Should have in-

terest in spending one-half to two-thirds time dealing with problems of medical students, admissions, educational programs for interns and residents as well as continuation instruction for postgraduates. Remainder of time available for teaching or research in clinical medicine. Address: V-8.

Personnel Available

• **PHYSIOLOGIST**—Ph.D.: age 36. Active researcher and teacher at university level, desires teaching-research position in medical school. Fine scholastic record, publications. National Research Council fellow, five years' teaching experience human, general physiology. Position with permanence desired, but will consider appointment permitting working for M.D. degree. Available after June 1953. Address: A-22.

• **PHYSICAL THERAPIST—EDUCATOR**: man, 38, M.S. and doctor of education. Experienced in teaching. Specialty—preparation of teachers of physical therapy. Seeks opportunity to develop curriculum and opportunity for research. Can act as educational consultant to other medical departments; take charge of inservice training programs. Kappa Delta Pi and professional societies. Excellent references. Available on short notice. Address: A-30.

• Ph. D. in all **BASIC SCIENCES**: man. Assistant professor at present. Training in all basic sciences. Teaching experience in anatomy (gross and microscopic), physiology and pathology (medical and clinical). Minimum salary stipulated. Address: A-31.

• **SURGEON**: Interested in teaching and research; Certified by the American Board of Surgery; Fellow, American College of Surgeons; two years teaching experience in clinical surgery; married; category 4 service U.S. Navy. Full-time work preferred. Address: A-32.

• **SURGEON**: 32, interested in career in academic surgery. Anticipates completion of American Board of Surgery certification March

To aid in solution of the problem of faculty vacancies, MEDICAL EDUCATION will list persons and positions available, as a free service. The school, department or person may have the option of being identified in these columns or of being assigned a key number for each position listed. Mail addressed to key numbers will be forwarded to the person or department listing the request.

Information for these columns should reach the Journal office, 185 N. Wabash Ave., Chicago 1, not later than the 13th of the month preceding publication.

NIGHTS WITHOUT TERROR



to prevent attacks in angina pectoris

Nocturnal angina pectoris (as well as day-time attacks) responds gratifyingly to Peritrate. Investigators report that in patients on Peritrate "insomnia due to pain was much reduced and they were able to enjoy reasonably good sleep."¹ Others had less palpitation during the night "and were able to sleep on the left side" which they had been unable to do prior to Peritrate.² When required, an extra 1-1½ tablets taken on retiring brought "striking relief."³

Prophylactic Management

Peritrate—a long-lasting coronary vasodilator—prevents rather than relieves attacks. The prophylactic action of each dose lasts 4 to 5 hours. One to 2 tablets of Peritrate, taken 3 to 4 times daily, can . . .

1. reduce the number of attacks and
2. reduce the severity of non-preventable attacks.

Effective in 4 out of 5 Patients

Fewer or less severe attacks occurred in 80% and 78.4% of patients,^{1,2} and in the majority the need for nitroglycerin was reduced. Clinical improvement has been verified by EKG findings and exercise tolerance may improve measurably.^{3,4}

Available in 10 mg. tablets in bottles of 100, 500 and 5000.

Literature and samples on request.

1. Humphreys, P., et al.: *Angiology* 3:1 (Feb.) 1952.
2. Ploz, M.: *New York State J. Med.* 52:2012 (Aug. 15) 1952.
3. Perlman, A.: *Angiology* 3:16 (Feb.) 1952.

Peritrate®



TETRA-NITRATE

(BRAND OF PENTAERYTHRITOL TETRA-NITRATE)

WARNER-CHILCOTT
Laboratories

NEW YORK

Personnel Available

1953; application accepted for fellowship in the American College of Surgeons for 1953. Currently holds staff appointment in department of surgery of a medical school. Wife and two children. Has training in basic research and anxious for opportunities in this direction. Full-time position preferred. Address: A-33.

• **ANATOMIST:** Ph.D., assistant professor, male, married. Four years teaching experience in medical school gross anatomy. Research and interest in neuroanatomy. Available August 1953. Address: A-34.

• **PATHOLOGIST:** M.D., man 41, married. Unusually fine and varied experience; teaching, research, hospital laboratory, administration, planning and construction; particularly competent in pathologic anatomy; at present associate professor and director of laboratories; seeks academic and/or hospital appointment. Address: A-35.

• **NEUROANATOMIST:** man, 43, married, Ph.D., member American Association of Anatomists. Experience: seven years teaching neuroanatomy, four years teaching gross anatomy; basic neurological research; administration; membership on several medical school administrative committees; original training under highly distinguished neuroanatomists. Publications. Member of scientific and scholastic societies. Noteworthy references. Experience includes reorganization of premedical program in large college with salutary results. Desires medical school position where interests in teaching, research and administration can be fulfilled. Available July 1953. Address: A-36.

• **ANATOMIST:** Ph.D., man, 40. Desires teaching position in anatomy (gross or microscopic). Teaching experience in histology, embryology and gross anatomy in dental and medical schools. Publications. Excellent references. Now employed but may be available on short notice. Address: A-37.

• **BACTERIOLOGIST; PARASITOLOGIST; PUBLIC HEALTH INSTRUCTOR:** Ph.D., man. Desires teaching position in bacteriology, parasitology or preventive medicine. Teaching experience in these subjects in liberal arts and professional schools. Now employed but may be available on short notice. Publications. Excellent references. Address: A-38.

• **INTERNIST:** 35 years. Certified. Would like full-time teaching position, associate professor of medicine or higher in medical school where there is an opportunity for organized research. Interested in metabolism and isotope research. Has been connected with teaching university since getting out of service. Associate in medicine 1951. Numerous publications. Address: A-39.

• **OPHTHALMOLOGIST:** Age 33, married, priority 4, certified, advanced degree in ophthalmology. Engaged now in medical school teaching, research and private practice. Publications include article, monograph and review. Trained in major American institutions. Desires full-time opportunity to combine teaching, research and clinical work. Address: A-40.

• **BIOCHEMIST:** Ph.D., age 26, married. Four years' research on the biochemistry of human arterial smooth muscle, contraction and tonus mechanisms in relation to hypertension and arteriosclerosis. Desires opportunity to con-

tinue biochemical research on the arterial wall under cardiovascular investigator, with possibility of study toward M.D. degree. Available October 1953 or June 1954. Address: A-41.

• **BIOCHEMIST:** Man, 32, family, Protestant. B.S. chemistry; M.S., Ph.D., biochemistry. Minors: physiology, microbiology, organic chemistry, Societies. Publications; book in progress. 3 years experience undergraduate, 4 years graduate assistant, 1 year industrial chemist, 3 years army medical technologist. 1 year cancer research. Currently 2 years assistant professor biochemistry in medical school. Research interests: carbohydrates, nucleic acids, analytical biochemistry, clinical chemistry. Desires change for professional, financial advancement. Available 2-3 months after job agreement is concluded. Address: A-42.

• **BIOCHEMIST or PHYSIOLOGIST:** Ph.D., age 31. Active researcher and teacher at university medical school for five years. Fine scholastic record, public health senior research fellow, many publications. Interested in position allowing work for M.D. degree. Address: A-43.

• **ANATOMIST:** 32, married, children. National Cancer Institute fellow (1 year); experience in all branches of anatomy. Publications on request. Interested in research as well as teaching. Excellent references. Available after July 1, 1953. Address: A-44.

• **PHARMACOLOGIST:** M.D., Ph.D. Assistant professor, medical school, age 38, married. Eight years experience teaching pharmacology to medical, dental and pharmacy students. Research experience with systemic anti-infectives and autonomic drugs. Publications. Desires teaching and/or research position. References. Address: A-45.

• **PHARMACOLOGIST-BIOCHEMIST:** Ph.D. 1953. Age 28, married, veteran. Phi Beta Kappa, Sigma Xi. Diversified background, strong chemical training. Some teaching experience. Desires academic position. Address: A-46.

• **BIOCHEMIST-PHYSIOLOGIST:** Man, 30, married, Ph.D. Now assistant professor at medical college. Enthusiastic teacher with several years of research experience. Desires academic position at medical, dental or pharmacy school or liberal arts college where good teaching is considered important. Interested in graduate training program and fundamental research, if available. Administrative duties are very welcome. Publications. Location immaterial. Rank and salary open. Address: A-47.

• **MAMMALIAN and GENERAL PHYSIOLOGIST:** A.B., Ph.D., man 31, married. Will graduate June. Six years teaching experience in dental, medical, graduate and undergraduate courses, laboratories and lectures. Publications. Member of scientific societies. Wide and varied interests. Four years in medical department of army; Rank, 1st Lt., inactive reserve. Prefer midwestern appointment. Available after June 1953. Address: A-48.

• **TEACHING FELLOWSHIP — OTOLARYNGOLOGY:** special interest in problems of tumors in region of head and neck, particularly those related to cancer of mouth, larynx and pharynx. Man, single, 37, M.D. (surgeon) University of Cordoba. Head of clinic and assistant chief, department of otolaryngology,

Personnel Available

Hospital Espanol, Cordoba, 3 years; intern and resident, U.S., 1949-1951. Member scientific societies. Excellent references. Argentine citizen; good command of English. Address: A-49.

• **TEACHING FELLOWSHIP — GYNECOLOGY:** Man, 41, married. M.D., University of Cordoba. Supervision of gynecological patients 1939 to present, 2 years teaching in medical school and hospital. Member scientific societies. Publications. Argentine citizen; good command of English. Address: A-50.

• **YOUNG SURGEON**—Certified general and thoracic boards. University trained. Major interest thoracic and cardiac surgery. Experienced in applied cardio-pulmonary physiology. Some publications. References. Wishes full-time teaching appointment. Address: A-51.

• **PHARMACOLOGIST - ADMINISTRATOR**—Man, 31 married. Ph. D. Desires academic position, preferably with teaching duties. Four years industrial experience, and five years academic experience. Interest in toxicology and neuropharmacology, and graduate student training. Highest references, publications. Address: A-52.

• **RADIOBIOLOGIST - HISTOLOGIST - ZOOLOGIST:** Man, 49, married, Sc.D. Experience mainly in radiobiology and histology. Prefers position in research institution or teaching and research in histology or zoology department with radiobiological research opportunities, or research appointment in department of roentgenology or radiobiology. Address: A-53.

• **PARASITOLOGIST:** D.Sc., man. Internationally known—widely travelled. Guggenheim

fellow. Effective teacher on undergraduate level in zoology, in medical school and postgraduate clinical level. Numerous research papers and monographs in taxonomy of parasites, surveys, chemotherapy and toxicology. Gets on well with colleagues. Desires position in fall. Salary secondary to time for research. Liberal arts college will be considered. Address: A-54.



FACULTY POSTS: (a) Dipl., Amer. Board of Pediatrics; well trained in pediatric allergy; (b) Prof & Chairman, dept., pediatrics; possibility appt as Chief, affiliated children's hosp; (c) Professor & Chairman, department neuropsychiatry and Chief, affiliated hosp. (d) Asst Professor, dept pathology and Chief, 600 bed affiliated hosp. (e) Professor, Anatomy; important southern school.

Let us prepare an individual survey for you. Please send for an **ANALYSIS FORM**.

CALIFORNIA ROCKY MOUNTAIN STATES PACIFIC COAST

Many openings, general,
Industrial and Specialties.

CONTINENTAL MEDICAL BUREAU, Agency
510 West 6th Street, Los Angeles 14
(Helen Buchan, Director)

Index to Advertisers

Your attention is invited to our list of advertisers for the current issue of **MEDICAL EDUCATION**. Anyone familiar with the manifold needs of undergraduate and postgraduate medical schools and teaching hospitals, by way of instruments and equipment, pharmaceuticals and chemicals, books and other teaching aids, will recognize the character and standing of the firms using our pages to call attention to their products or publications.

Abbott Laboratories	7
Appleton-Century-Crofts, Inc.	3
The Blakiston Company	58
Continental Medical Bureau	72
Fellows Medical Manufacturing Company....	5
Lea & Febiger	68
J. B. Lippincott Company	Back cover
McGraw-Hill Book Co., Inc.....	Inside front cover

MEDICAL EDUCATION	Inside back cover
Monarch Editions	59
Ortho Pharmaceutical Corp.....	Following page 4
Physiological Chemicals Company.....	68
Taylor Instrument Company	8
W. B. Saunders Co.....	Front cover, 1
Warner-Chilcott Laboratories	70
Woodward Medical Bureau	72

